

铁线莲属研究随记(I)

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Notes on the genus *Clematis* (Ranunculaceae)(I)

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Abstract (1) Some taxonomical problems of the genus *Clematis* mainly about misidentifications are discussed, and some treatments including the reinstatement of *Clematis montana* var. *brevifoliola* Kuntze, *C. apiifolia* var. *bitemata* Makino, *C. subumbellata* Kurz, *C. goudotiana* Planch. & Triana, *C. insidiosa* Baill., *C. kockiana* Schneid. and *C. longicauda* A. Rich., and the reduction of subsect. *Africanæ* M. Johnson, *C. umbellifera* Gagnep., *C. pubescens* Benth., *C. rhodocarpa* Rose, *C. edentata* Baker, *C. stoltzi* Engler, *C. tibetana* ssp. *vernayi* var. *dentata* Grey-Wilson, *C. clarkeana* var. *stenophylla* Hand.-Mazz., *C. subfalcata* Pei ex M. Y. Fang, *C. angustifoliola* W. T. Wang, *C. dasyandra* var. *polyantha* Finet & Gagnep. etc are given. (2) The new diagnoses for the two subsections of the sect. *Meclatis* are provided; *C. sericea* H. B. K. ex DC. and *C. grossa* Benth. are treated as two varieties of one species; and a new classification of the infraspecific taxa of *C. hirsuta* Perr. & Guill. is made. (3) one subsection, one series, eight species and one variety are described as new. (4) The new occurrences of *C. montana* var. *brevifoliola* Kuntze in southern Xizang, China, Nepal, Bhutan and northern Myanmar, *C. burmanica* Lace in southwestern Yunnan, *C. armandii* Franch. in Assam, India and northern Myanmar, and *C. yui* W. T. Wang in northern Myanmar are reported.

Key words *Clematis*; Taxonomical problems; New taxa; New distribution record

摘要 于1999年5月至9月,作者先后访问了K、BM、P和S四个植物标本馆,在查阅他们收藏的铁线莲属植物标本的过程中,发现该属的一些分类学问题:(1)发现过去一些学者分别错误地将 *Clematis montana* var. *brevifoliola* Kuntze, *C. apiifolia* var. *bitemata* Makino, *C. subumbellata* Kurz, *C. goudotiana* Planch. & Triana, *C. insidiosa* Baill., *C. kockiana* Schneid. 和 *C. longicauda* A. Rich. 等加以归并,这些均应予以恢复。(2)发现过去发表的 subsect. *Africanæ* M. Johnson, *C. umbellifera* Gagnep., *C. pubescens* Benth., *C. rhodocarpa* Rose, *C. edentata* Baker, *C. djalonensis* Cheval., *C. oliveri* Kuntze, *C. tibetana* ssp. *vernayi* var. *dentata* Grey-Wilson, *C. yunnanensis* var. *brevipedunculata* W. T. Wang, *C. clarkeana* var. *stenophylla* Hand.-Mazz., *C. subfalcata* Pei ex M. Y. Fang, *C. angustifoliola* W. T. Wang, *C. dasyandra* var. *polyantha* Finet & Gagnep. 等学名不能成立,应加以归并。(3)对构成黄花铁线莲组 sect. *Meclatis* 的二亚组给出新的特征集要;根据 *C. sericea* B. H. K. ex DC. 与 *C. grossa* Benth. 的形态区别不大,有时甚至难以区分以及二者的分布区一南一北互相邻接的分布格局,认为二者可能为一对姊妹群,并将其等作为一个种的两个地理变种处理;认为在非洲大陆广布并分布到阿拉伯半岛的 *C. hirsuta* Perr. & Guill. 包含4变种;将过去置于 *C. oweniae* Harv. 的变种 var. *jonodii* 移到此种中,并根据 *C. inciso-dentata* A. Rich. 特殊的绵毛毛被和内面无毛的萼片等特征,否定过去一些学者将其归并于 *C. hirsuta* 的意见,也将其作为 *C. hirsuta* 的一个变

种处理。(4)描述了单性铁线莲组 sect. *Aspidanthera* 的一个特产马达加斯加岛的新亚组 subsect. *Insidiosae* W. T. Wang 和尾叶铁线莲亚组 subsect. *Connatae* 的一个特产非洲大陆的新系 ser. *Grandiflorae* W. T. Wang 以及 8 新种、1 新变种。(5)发现杨宗愈等(1991)报道的秀丽铁线莲 *C. grata* Wall. 在我国 7 省区(西藏东部、云南、四川、贵州、湖北、湖南、江西)有分布所依据的 8 号标本均非 *C. grata*, 而分别是与此种相近缘的 5 个种或变种。(6)发现了伏毛绣球藤 *C. montana* var. *brevifoliola* Kuntze (原知分布于锡金和印度西北部)在我国西藏、尼泊尔、不丹和缅甸北部, 缅甸铁线莲 *C. burmanica* Lace (原知分布于缅甸和泰国)在我国云南西南部, 小木通 *C. armandii* Franch. (原知分布于我国长江流域、越南)在缅甸北部和印度东北部, 以及俞氏铁线莲 *C. yui* W. T. Wang (原知分布于我国云南西北部和西藏东南部)在缅甸北部的新分布。

关键词 铁线莲属; 分类学问题; 新分类群; 新分布

Clematis L.

Sect 1. **Cheiropsis** DC.

Subsect. **Montanae** Schneid.

Among the groups of the genus *Clematis*, subsect. *Montanae* represented by *C. montana* with spreading, membranous, obovate, inside glabrous outside puberulous sepals, glabrous stamens, narrowly linear filaments and oblong or narrowly oblong anthers obtuse at apex, is most similar to the genus *Anemone* and seems to be the extant primitive group of the *Clematis*, though possessing some advanced characters, such as the flowers with leaves arising from axillary buds of old branches and the absence of peduncle in inflorescence.

1a Clematis montana Buch.-Ham. ex DC. var. **grandiflora** Hook. in Curtis's Bot. Mag. 70: t. 4061. 1844; Bruhl in Ann. Bot. Gard. Calc. 5(2):74. 1896; Mukerjee in Bull. Bot. Surv. Ind. 1(1):139. 1959; M. Johnson, Klematis 396. 1997, p. p. TYPE: t. 4061, loc. cit.

India. Simla, Thomson s. n. (K!); without precise locality, Saunders s. n. (K!).

Kashmir. Banahal Pup, Thomson s. n. (K! P!); Pabal Gom, Tuller 814 (K!); without precise locality, Jacquemont 247 (P!).

W. J. Hooker stated in the protologue that this variety was introduced from the Himalayas. In 1999 in the Herbarium at Kew, I failed to find out the type specimen designated by Hooker. In this case, the table 4061 may be served as the nomenclatural type according to Article 8 of ICBN (Greuter et al. 1994). One of the specimens cited above, Thomson s. n. collected from Kashmir, matches that table very well.

Var. *grandiflorum* differs from var. *montana* only in its larger flowers, being 6~9 cm in diameter, and is confined to the western Himalaya in geographical distribution. Var. *montana* has flowers 3~5 cm in diameter, and has a much more widespread distribution than var. *grandiflorum*, ranging from western Himalaya eastward through eastern Himalaya and the reaches of the Yangtze River to the island Taiwan of China.

1b 长梗绣球藤 变种

Clematis montana Buch.-Ham. ex DC. var. **longipes** W. T. Wang, var. nov. TYPE: China. Sichuan, Mt. Emei (峨眉山), Jingangzui, alt. 2400 m, on rocks, fl. white, 1957-06-11, G. H. Yang 55295 (holotype, PE!). same locality, 1928-08-12, W. P. Fang 2838 (P); Shimi-an (石棉), 1955, C. Z. Xie 41242 (PE); Tianquan (天全), 1936, G. L. Qu 2563 (PE);

Baoxing (宝兴), alt. 2500 m, 1933-06-11, T. T. Yu 1965 (PE); Wenchuan (汶川), alt. 2100 m, 1930-05-29, F. T. Wang 21045 (PE); Pingwu (平武), alt. 2250 m, 1958-05-13, X. L. Jiang 10196 (PE); Nanchuan (南川), alt. 1750 m, 1957-05-13, J. H. Xiong & Z. L. Zhou 90797 (PE). **Xizang:** Mêdog (墨脱), alt. 3000 m, 1974-07-30, Qinghai-Xizang Exped. 74-3749 (PE). **Yunnan:** Degen (德钦), 1938-08-19, T. T. Yu 22414 (PE); same locality, 1895-06-20, Soulie 1369 (P); Weixi (维西), alt. 3000 m, 1935-07, C. W. Wang 64517 (PE); Lijiang (丽江), 1939-05-29, R. C. Ching 20547 (PE). **Guizhou:** Mt. Fanjing (梵净山), alt. 2200 m, 1931-10-01, Steward *et al.* 501 (P, S); same locality, alt. 1560 m, 1959-05-05, North. Guizhou Exped. 431 (PE). **Hubei:** Jianshi (建始), 1958-05-09, W. B. Lin 86 (PE). **Gansu:** Wenxian (文县), alt. 2200 m, 1959-05-19, S. Jiang & C. L. Jin 328 (PE).

C. montana var. *grandiflora* auct. non Hook.: Rehd. & Wils. in Sarg. Pl. Wils. 1:333. 1913; Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28:222, pl. 73, fig. 2~3. 1980; M. Johnson, Klematis 396. 1997, p. p.

A var. *montana* et var. *grandiflora* Hook. differt pedicellis longioribus (10~19 cm longis), sepalis extus marginibus velutinis latis instructis.

Var. *longipes*, formerly misidentified as var. *grandiflora*, differs from var. *montana* and var. *grandiflora* in its longer pedicels (10~19 cm) and in its sepals being densely velutinous along the margins outside. In var. *montana* and var. *grandiflora*, the pedicels are 3~10 cm long, and the sepals are appressed-puberulous outside.

1c 伏毛绣球藤 变种

Clematis montana Buch.-Ham. ex DC. var. *brevifoliola* Kuntze in Verh. Bot. Ver. Brand. 26:141. 1885. TYPE: Sikkim. Jungh, 1849-07-23, J. D. Hooker s. n. (lectotype, designated here, K!).

? *C. montana* var. *chumbica* Bruhl in Ann. Bot. Gard. Calc. 5(2):73. 1896. TYPE: Sikkim. King's collector s. n. (syntype, CAL, not seen); Chumbi, King's collector s. n. (syntype, not seen).

China. **Xizang:** Chumbi (春丕), Dungboo s. n. (K); Yadong (亚东), Hobson s. n. (K); Gautsa, Gould 1530 (K); Karma, Esnouon 222 (K); Kharta Chu, Esnouon 92 (K).

Nepal. Thudam, Stainton 361 (BM); Bharku, Bailey's collector 305 (BM); Lantang, Polunin 497 (BM); Shiar Khola, Gardner 1007 (BM); Gosainkun, Fell 25 (BM).

Sikkim. Jungh, 1849-07-23, J. D. Hooker s. n. (K); Jarher, J. D. Hooker s. n. (K); Dzongri, Starling *et al.* 254 (K); Thangshing, Starling *et al.* 190 (K).

Bhutan. Kitiphu, Gould 427 (K); Phojiding, Bedi 596 (K); Segala, Bedi 350 (K); Mo Chu, Sinclair & Long 5144 (K); Shado Jimpu, Cooper 1847 (BM).

Myanmar. Sirhoi, F. Kingdon Ward 17260 (BM).

Distribution: China (S Xizang), Nepal, Sikkim, Bhutan, N Myanmar.

In the lectotype and the specimens cited above, the ovaries and achenes are hairy. However, in the original Latin diagnosis of this variety, there was no description of ovaries and achenes. As a matter of fact, var. *brevifoliola* is mainly distinguished by these characters from var. *montana*, in which the ovaries and achenes are glabrous. Since its publication in 1885, var. *brevifoliola* has long

been neglected by authors of the Himalayan floras and works on Himalayan *Clematis* (Naithani, 1990; Grierson & Long 1984; Hara, 1979; Kapoor, 1966; Gupta, 1963; Bruhl, 1896), and was reduced to the synonymy of *C. montana* by Johnson in his recent monograph (1997).

Sect. 2. *Clematis*

Subsect. 1. *Clematis*

2a *Clematis apiifolia* DC. var. *bitemata* Makino in Bot. Mag. Tokyo 20:8. 1906; Ohwi, Fl. Japon 515. 1953; Nov. Fl. Nasu. 178. 1972; Tamura in Satake *et al.* Wild Flow. Japan 2: 73. 1982. TYPE: Japan. Matsuda s.n., Makino s.n., Yatabe s.n. (syntypes, TI, not seen).

C. brevicaudata auct. non DC.: Makino in Bot. Mag. Tokyo 8: 331. 1897 et 26: 82. 1912; Matsum. Ind. Pl. Japon. 2:10. 1912; Makino, Ill. Fl. Japon., enlarg. ed. 551, fig. 1651. 1965; M. Johnson, *Clematis* 426. 1997.

Japan. Hondo: Kaida-mura, Mizushima 2399 (GH); Yamanashi, Mt. Mitsutooga, Fruse s.n. (GH); Nikko, Mizushima 2123 (GH); Musashi, Mizushima 14996 (S). **Honshu:** Nara, Mt. Wasamata, Tsugara 7423 (GH); Yamagata, Takahashi 281 (GH).

Distribution: Japan.

Clematis apiifolia DC. with three varieties is characterized by its once or twice ternate leaves and lanceolate achenes. Of the three varieties, var. *bitemata* differs from var. *apiifolia* and var. *argenteilucida* (Lévl. & Van.) W. T. Wang in its bitemate leaves and subglabrous achenes. In the other two varieties, the leaves are once ternate and the achenes are densely puberulous. In his monograph, Johnson (1997) reduced *C. apiifolia* var. *bitemata* Makino to the synonymy of *C. brevicaudata* DC. However, the latter with elliptic and densely puberulous achenes is different from *C. apiifolia* var. *bitemata*, and var. *bitemata* should be reinstated.

Yang *et al.* (1991) reported the distribution of *C. grata* Wall. in mainland China from eastern Xizang to northern Jiangxi. In 1999 in BM and K, after examining the 8 specimens collected from Southwest and Central China cited by the three authors in their paper, I realized that none of these specimens is *C. grata*, and they in fact belong to the following 5 taxa, which are closely related to *C. grata*, a species restricted to the Himalayas in geographical distribution.

2b 钝齿铁线莲 变种

***Clematis apiifolia* DC. var. *argenteilucida* (Lévl. & Van.) W. T. Wang** in Acta Phytotax. Sin. 31(3):216, fig. 2. 1993. — *C. vitalba* L. var. *argenteilucida* Lévl. & Van. in Bull. Acad. Intern. Geogr. Bot. 11(152):167. 1902. TYPE: China. Guizhou, Guiyang, Bodinier 1621 (lectotype, E!), Bodinier s.n. (syntype, E!).

C. apiifolia var. *obtusidentata* Rehd. & Wils. in Sarg. Pl. Wils. 1:336 1913; Hand. -Mazz. in Acta Hort. Gotob. 13:213. 1939; Ting in Fl. Reip. Pop. Sin. 28:193. 1980; M. Johnson, *Clematis* 423. 1997. TYPE: China. Hubei, Badong, 1907-05, Wilson 427b (holotype, GH!; isotype, K!).

C. grata auct. non Wall.: Yang *et al.* in J. Taiwan Mus. 44(1):148. 1991, p. p., quoted specim. e Guizhou, Hunan et Guangxi lecta.

Specimens cited by Yang *et al.* under *C. grata*: **China. Guizhou:** Zunyi, Steward *et al.* 29 (K). **Hunan:** Changning, C. S. Fan & Y. Y. Li 138 (BM). **Jiangxi:** Jiujiang, H. H. Hu 1378(K).

Distribution: China (E Yunnan, Sichuan, S Gansu, S Shaanxi, Hubei, Hunan, Guizhou, N Guangxi, N Guangdong, Jiangxi, Zhejiang, S Jiangsu, S Anhui).

As mentioned above, *C. apifolia* var. *argenteilucida* has once ternate leaves and lanceolate achenes, and by these characters is clearly distinguished from *C. grata*, in which the leaves are once or twice pinnate, and the achenes are elliptic in outline.

3 毛果铁线莲 变种

Clematis pterae Hand.-Mazz. var. ***trichocarpa*** W. T. Wang in Acta Phytotax. Sin. 6 (4):387. 1957; Ting in Fl. Reip. Pop. Sin. 28:195. 1980; M. Johnson, Klematis 438. 1997. TYPE: China. Shaanxi, Shanyang, T. P. Wang 16440 (holotype, PE!).

C. grata auct. non Wall.: Yang *et al.* in J. Taiwan Mus. 44(1):148. 1991, p. p., quoad specim. e Hubei lectum.

Specimen cited by Yang *et al.* under *C. grata*: **China. Hubei:** Menlouku, Silvestri 3945 (BM).

Distribution: China (Sichuan, S Gansu, S Shaanxi, W Henan, Hubei, Hunan, Jiangxi, N Zhejiang, Jiangsu, S Anhui).

C. pterae var. *trichocarpa* with once pinnate leaves and many-flowered axillary inflorescences is similar to *C. grata*, but in its abaxially sparsely puberulous and at margin entire or 1~2-denticulate leaflets differs from *C. grata*, in which the leaflets are usually abaxially densely puberulous and at margin more dentate.

4 粗齿铁线莲

Clematis grandidentata (Rehd. & Wils.) W. T. Wang in Acta Phytotax. Sin. 31(3):218. 1993. — *C. grata* Wall. var. *grandidentata* Rehd. & Wils. in Sarg. Pl. Wils. 1:338. 1913. TYPE: China. Hubei, Badong, 1907-05, Wilson 110 (holotype, GH!; isotypes, E! K! S!).

C. argenteilucida W. T. Wang in Acta Phytotax. Sin. 6(4):387. 1957, nom. illegit., non *C. vitalba* L. var. *argenteilucida* Lévl. & Van.; Ting in Fl. Reip. Pop. Sin. 28:196, fig. 30. 1980; M. Johnson, Klematis 423. 1997.

C. grata auct. non Wall.: Yang *et al.* in J. Taiwan Mus. 44(1):148. 1991, p. p., quoad specim. e Sichuan lectum.

4a var. ***grandidentata***

Specimen cited by Yang *et al.* under *C. grata*: **China. Sichuan:** Kangding (Tachienlu), Pratt 78 (K).

Distribution: China (N Yunnan, Guizhou, Sichuan, NW Hunan, Hubei, S Gansu, S Shaanxi, W Henan, S Shanxi, SW Hebei.)

C. grandidentata with once pinnate leaves and abaxially often densely puberulous leaflets is similar to *C. grata*, but in its few-flowered axillary inflorescences and larger flowers (2~3.5 cm in diameter) (Ting 1980, Wang 1957) differs from the latter. In the two varieties of *C. grandidentata*, var. *grandidentata* has hairy ovaries and achenes, whereas var. *likiangensis* has glabrous ovaries and achenes. In *C. grata*, the axillary inflorescences are many-flowered, the flowers are smaller, 1.2~2 cm in diameter, and the ovaries and achenes are densely puberulous.

4b 丽江铁线莲 变种

var. ***likiangensis*** (Rehd.) W. T. Wang in Acta Phytotax. Sin. 31(3):219. 1993. — *C.*

grata Wall. var. *likiangensis* Rehd. in J. Arn. Arb. 14:201. 1933. TYPE: China. Yunnan, Lijiang, May ~ Oct., 1922. Rock 3668 (holotype, GH!), 3918 (paratype, GH!).

C. grata auct. non Wall.: Yang *et al.* in J. Taiwan Mus. 44(1):148. 1991, p. p. quoad specim. e Yunnan lectum.

Specimen cited by Yang *et al.* under *C. grata*: **China. Yunnan**: Lijiang (Likang), Forrest 5566 (K).

Distribution: China (NW Yunnan, Sichuan, Guizhou, W Hubei, NW Zhejiang, SW Hebei).

5 短尾铁线莲

Clematis brevicaudata DC. Syst. 1:138. 1818; Prodr. 1:3. 1824; Hand.-Mazz. in Acta Hort. Gotob. 13:219. 1939; Ting in Fl. Reip. Pop. Sin. 28:188, fig. 26. 1980; M. Johnson, Klematis 425. 1997, p. p. excl. syn. *C. apiifolia* DC. var. *bitemata* Makino. TYPE: China. montane region on the north of Beijing, Staunton s. n. (holotype, BM!).

C. grata auct. non Wall.: Yang *et al.* in J. Taiwan Mus. 44(1):148. 1991, p. p., quoad specim. e Xizang lecta.

Specimens cited by Yang *et al.* under *C. grata*: **China. Xizang**: Kongbo, Ludlow 14338 (BM); Yigrong, F. Kingdon Ward 12138 (BM).

Distribution: China (E Xizang, NW Yunnan, W Sichuan, E Qinghai, S Gansu, Ningxia, Shaanxi, W Henan, N Jiangsu, Hebei, Shanxi, Nei Monggol, Liaoning, Jilin, Heilongjiang), N Korea, Mongolia, Russia (Far East Region).

The population of *C. brevicaudata* in eastern Xizang and western Sichuan with less acuminate leaflets is really similar to those plants of *C. grata* with bipinnate leaves, and may be distinguished from the latter by its less densely puberulous branchlets, peduncles and pedicels. In *C. grata*, the branchlets, peduncles and pedicels are all covered with a very dense velvety indumentum.

6 缅甸铁线莲

Clematis burmanica Lace in Kew Bull. 1915:394. 1915; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 6. 1961; Kapoor, l.c. 78:17. 1962; Tamura in J. Phytogeogr. Taxon. 28:14. 1980; M. Johnson, Klematis 426. 1997. TYPE: Myanmar. Maymyo, Ani Sakan, Lace 5927 (holotype & isotype, K!).

China. Yunnan: Lancang (澜沧), alt. 1700 m, Y. Y. Qian 3049, 3188 (PE).

Thailand. Chiangmai, Smitinand 7237 (K), Put 363 (K); Chiang Rai, Geesink & Heipko 8243 (K).

Distribution: China (SW Yunnan), Myanmar, N Thailand.

The two Yunnan specimens cited above match the type specimen very well. Within sect. *Clematis* subsect. *Clematis*, *C. burmanica* with ternate leaves is somewhat related to *C. apiifolia* (var. *apiifolia* and var. *argenteilucida*, see above), and from the latter is easily distinguished by its entire undivided leaflets, inside glabrous sepals, and broadly elliptic achenes. In the two varieties of *C. apiifolia*, the leaflets are dentate and often 3-lobed at margin, the sepals are puberulous on both surfaces and the achenes are lanceolate in outline.

7 细木通

Clematis subumbellata Kurz in J. As. Bot. Bengal 39(2):9. 1870; et For. Fl. Burma 1: 16. 1877; Tamura in J. Phytogeogr. Taxon. 28:14. 1980; W. T. Wang in Acta Phytotax. Sin.

36(2): 157. 1998. — *C. floribunda* Kurz in J. Bot. 5:240. 1867, non Planch. & Triana, 1862. — *C. vitalba* L. ssp. *subumbellata* (Kurz) Kuntze in Verh. Bot. Ver. Brand. 26:100. 1885. TYPE: Myanmar. Pegu, type specimen not seen.

C. kerriana Drumm. & Craib in Kew Bull. 1914:122. 1914; Gupta in Bull. Nat. Bot. Gard. Lucknow. 80: pl. 32. 1963; Ting in Fl. Reip. Pop. Sin. 28: 191, fig. 27. 1980; M. Johnson, Klematis 435. 1997. TYPE: Thailand. Me K' mi, 1912-02-14, Kerr 2374 (holotype, K!; isotype, BM!).

C. laxipaniculata Pei in Sinensia 7:473, fig. 1. 1936. TYPE: China. Yunnan, Puer, 1933-12-10, Y. Tsiang 12840 (isosyntype, PE!).

C. umbellifera Gagnep in Bull. Soc. Bot. France 82:477. 1936, et in Fl. Gen. Indo-Chine, Suppl. 1:4. 1938, syn. nov. TYPE: Vietnam. Annam, Cur-rao, 1932-01-29, Poilane 19976 (syntype, P!). Laos. Muong Soui, 1932-02, Poilane 20020 (syntype, P!).

C. gouriana auct. non Roxb. ex DC.: M. Johnson, Klematis 428. 1997, p. p., quoad syn. *C. floribunda* Kurz, *C. subumbellata* Kurz et *C. vitalba* L. ssp. *subumbellata* (Kurz) Kuntze.

China. Yunnan: Simao, Henry 10919A (K).

Myanmar. Tanngbyo Reo, Maung Wgn 3679 (K); Wa State, Khant 15234 (K); Maymyo Plateau, Lace 5575 (K); Shan State, Rock 230, Robertson 191 (K).

Thailand. Chiangmai, Smitinand 8793, 10173 (K), Nouteboom 872 (K, P); Mt. Doi Chang, Rock 1699, 1713.

Vietnam. Tonkin, Poilane 27195 (K).

Distribution: China (S Yunnan), Myanmar, Thailand, Laos, Vietnam.

In his monograph, Johnson (1997) reduced *C. subumbellata* Kurz to the synonymy of *C. gouriana* Roxb. ex DC., but recognized *C. kerriana* Drumm. & Craib which is in fact identical with *C. subumbellata* Kurz. *C. subumbellata* in its leaf and floral morphology is really similar to *C. gouriana*, while different from the latter in its usually bipinnate leaves, and the densely puberulous or velutinous branches and abaxial leaflet surfaces. In *C. gouriana*, the leaves are usually once pinnate, the leaflets usually glabrous or sometimes abaxially sparsely puberulous, and the branches sparsely puberulous.

Subsect. 2. **Rectae** Prantl.

Ser. 1. **Armandianae** W. T. Wang.

8 小木通

Clematis armandii Franch. in Nouv. Arch. Mus. Hist. Nat. Paris ser. 2, 8:184, t. 2. 1885; Sprague in Curtis's Bot. Mag. 140: t. 8587. 1914; Hand.-Mazz. in Acta Hort. Gotob. 13: 208. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28:175, pl. 52. 1980; M. Johnson, Klematis 634. 1997. TYPE: China. Sichuan, Baoxing (Mupin), 1869-04, David s. n. (holotype and isotypes, P!).

C. meyeniana Walp. var. *insularis* auct. non Sprague; Gupta in Bull. Nat. Bot. Gard. Lucknow 97: pl.56. 1964; Kapoor, l.c. 124:40. 1966; Rau in Sharma *et al.* Fl. India 1:68. 1993.

India. Naga Hills, 1935-03, Bor 2854, 2881 (K); Apa Tani Valley, 1965-04, Cox &

Hutchinson 339 (K).

Myanmar. Manhsum, 1940-04, Dickason 9754 (GH).

Distribution: China (E Xizang, Sichuan, Yunnan, W Guangxi, N Guangdong, Guizhou, Hunan, Hubei, Jiangxi, Fujian, W Zhejiang), N Vietnam, N Myanmar, NE India.

The specimens collected from northeastern India cited above are in accordance with the morphology of *C. armandii* for having ternate leaves with coriaceous narrowly ovate leaflets and paniculate inflorescences arising from the axillary buds of the old branches, and thus should be identified as that species instead of *C. meyeniana* var. *insularis*. In the latter, the leaflets are thinner in texture and ovate in outline, and the panicles arise from the leaf axils of the hornotinous branches.

C. armandii is variable in sepal shape, with sepals being obovate, oblanceolate, oblong, narrowly oblong, or linear. The sepals of the Indian specimens are linear in outline, and very similar to those of Ducloux 4799 (P) collected from Kunming, Yunnan Province, China.

Ser. 2. **Uncinatae** Tamura.

9 柱果铁线莲

Clematis uncinata Champ. in Kew J. Bot. 3:255. 1851; Finet & Gagnep. in Bull. Soc. Bot. France 50:523. 1903, p. p.; M. C. Chang in Fl. Reip. Pop. Sin. 28:165. 1980; M. Johnson, Klematis 645. 1997, cum syn. TYPE: China. Hongkong, Saywan, Champion s. n. (holotype, K!).

C. leiocarpa Oliv. in Hook. Icon. Pl. 16: pl. 1533. 1886, p. p. quoad Henry 714A et fig. rami floriferi. TYPE: China. Hubei, Yichang, Henry 714A (syntype, K!).

9a var. *uncinata*

Distribution: China (widespread in subtropical and tropical regions), Vietnam.

9b 皱叶铁线莲 变种

var. *coriacea* Pamp. in Nuov. Giorn. Bot. Ital. n. ser., 22:286. 1915; Hand.-Mazz. in Acta Hort. Gotob. 13:207. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28:166. 1980; M. Johnson, Klematis 646. 1997. TYPE: China. Hubei, Zan-tan-scian, 1912-08, Silvestri 3936, 3936a (syntypes, not seen).

C. leiocarpa Oliv. l c., p. p. quoad Henry 309 et fig. rami fructiferi. TYPE: China. Hubei, Yichang, Henry 309 (syntype, K!).

Distribution: China (N Sichuan, S Gansu, S Shaanxi, Hubei, NW Hunan).

While publishing *C. leiocarpa*, Oliver cited two specimens. After examining these specimens in K, I realized that they represent two taxa. Of them the flowering specimen, Henry 714A is *C. uncinata* var. *uncinata*, with leaflets being chartaceous or thinly coriaceous and abaxially slightly glaucous and distinctly reticulate, whereas the other syntype, Henry 309, a fruiting specimen, is *C. uncinata* var. *coriacea*, with leaflets being thickly coriaceous, strongly glaucous, and not reticulate abaxially.

Sect. 3. **Aspidanthera** Spach.

Subsect. 1. **Dioicae** (Prantl) Tamura.

10 Clematis goudotiana Planch. & Triana in Ann. Sci. Nat. ser. 4., 17: 10. 1862; Cortes, Fl. Columb. 84. 1898. TYPE: Columbia (N. Granata). Melgar, Prov. Mariquite, 1844, Goudot s. n. (holotype, P!).

C. pubescens Benth. Pl. Hartw. 5. 1839, non Hugel, 1837; M. Johnson, Klematis 484. 1997, syn. nov. TYPE: Mexico. Guanajuato, 1837, Hartweg 3 (holotype, K!; isotypes, BM! GH! P!).

C. rhodocarpa Rose in Contrib. U. S. Nat. Herb. 10: 95. 1906, syn. nov. TYPE: Mexico. Oaxaca, Pringle 4770 (holotype, US!; isotypes, GH! K! P!).

C. grossa auct. non Benth.: Sanohez, Fl. Valle Mexico 1:171, fig. 120: C. 1969.

C. dioica auct. non L.: M. Johnson, Klematis 476. 1997, p. p. quoad syn. *C. rhodocarpa* Rose.

C. haenkeana auct. non Presl: M. Johnson, l. c. 481, p. p. quoad syn. *C. goudotiana* Planch. & Triana.

Mexico. Oaxaca, C. L. Smith 659 (MO), Nelson 1983 (US); Morella, Arsene 6669 (GH); Eslava, Pringle 11910 (K); Guerrero, Pringle 10332 (P); Lomas, Lyonnet 128 (K, US); Guadalupe, Hinton 9777 (K), Orseny 1182 (P); Plateado, Roso 2790 (US); Puebla, Nicolas 5541 (P); Mt. Tacana, Matuda 2426 (K); Tenajapa, Ton 527 (GH).

Honduras. Corozal, Gentle 593, 1086 (K); Rio Grande River, Schipp 620 (K).

Distribution: Mexico, Honduras, Columbia.

The above three names represent one same species. Of them, *C. pubescens* Benth. is a later homonym, and should be rejected. As to the other two names, *C. goudotiana* has priority, and should be used for that species.

C. goudotiana with ternate leaves is related to *C. virginiana* L. of eastern North America, differing from the latter in its leaflets which are usually narrowly ovate, at margin entire or few-dentate undivided, on both surfaces puberulous. In *C. virginiana*, the leaflets are coarsely dentate and often 3-lobed at margin, and on both surfaces usually subglabrous or abaxially sparsely puberulous.

11 Clematis heankeana Presl, Reliq. Haenk. 2:69. 1835; Lourteig in Mem. Soc. Cien. Nat. La Salle 16:25. 1956; et in Lasser, Fl. Venez. 3, pl. 1: A 1971, p. p. excl. syn. *C. populifolia* Turcz., quae *C. dioica* L. est, et excl. syn. *C. sericea* H. B. K. ex DC.; M. Johnson, Klematis 481. 1997, p. p. excl. syn. *C. goudotiana* Planch. & Triana, *C. populifolia* Turcz., *C. sericea* H. B. K. ex DC., et *C. medusaea* Planch. & Triana, quae *C. affinis* St. Hil. est. TYPE: Peru, Valley Cordill, 1790, Haenke s. n. (holotype, PR, not seen; photo. NY! P! US!).

C. floribunda Planch. & Triana in Ann. Sci. Nat. 17: 9. 1862; Rusby in Bull. New York Bot. Gard. 4:320. 1907. TYPE: Columbia (N. Granata). Tenasuca, Prov. Bogota, Triana s. n. (syntype, P!; isosyntypes, BM! K!).

Peru. Chachapoyas, Mathews s. n. (K); Cuzco, Mexia 8044 (K); Huanuco, Woytkowski 8005 (K); Lima, Cerrate 5703, Ferreyra 2016, 6060 (P); Otuzco, Ridoutt 477 (P); Santa Eulalia, Ridoutt s. n. (P); San Martini Juan Jui, Klug 4241 (K).

Ecuador. Andes Spruce s. n. (GH); Tarqui, Camp 2023 (GH).

Venezuela. Tovar Fendler 1 (K); Rio Claro, Aristeguieta 4828 (P).

Bolivia. Apolo, Williams 152 (K); Tarija, Krapovickas *et al.* 19102 (GH).

Distribution: Peru, Ecuador, Venezuela, Bolivia.

Lourteig (1971, l.c.) and Johnson (l.c.) reduced *C. sericea* H. B. K. ex DC. to the synonymy of *C. haenkeana* Presl. In 1999 after examining the relevant specimens cited here, I felt it hard to agree to their reduction. *C. haenkeana* with 5-foliolate pinnate leaves is similar to *C. sericea*, but not identical with it. In *C. haenkeana*, the leaflets are usually orbicular-ovate or broadly ovate in outline, at margin usually entire, sometimes 1~2-denticulate at each side, never coarsely dentate, abaxially densely to sparsely appressed-puberulous, never velutinous. Whereas in *C. sericea*, the leaflets are usually oblong-ovate in outline, at margin coarsely 1~3-dentate at each side, abaxially often densely velutinous, sometimes densely to sparsely appressed-puberulous. In the coarsely dentate margin and velutinous abaxial surfaces of leaflets, *C. sericea* is really similar to *C. grossa* and is often difficultly distinguished from the latter. In *C. grossa*, the leaflets are broadly ovate in outline, at margin coarsely 3~5-dentate each side, and abaxially often velutinous. These two taxa are really closely related to each other. From the fact that the distribution area of *C. grossa* lies to the north of that of *C. sericea*, I think that these two taxa seem to be a pair of sister groups, and would like to treat them as two geographical varieties of one species.

12 *Clematis grossa* Benth. Pl. Hartw. 33. 1839; Standl. Fl. Costa Rica 2:434. 1937; Standl. & Stey, Fl. Guatem. 247. 1946; M. Johnson, *Clematis* 479, cum pl. 1997. TYPE: Mexico. San Bartolo in the Barrama, 1838, Hartweg 266 (holotype, K!; isotype, P!).

12a var. *grossa*

Foliola vulgo late ovata vel orbiculari-ovata, margine utrinsecus grosse 3~5-dentata saepe 3-lobata, subtus velutina, interdum dense raro sparse sericea.

Mexico. Caernavaca, Bourgeau 1166 (P); Cordillera Galeotti 1544 (K), 4569 (P); Cordova, Bourgeau 1568 (K, S); Guadalojara, Palmer 690 (K, P); Huejotitan, Diguett s. n. (P); Jalisco, Pringle 2368 (K, S); Guerrero, Pringle 10332 (K, S); Orizaba, Billimek 28 (K), Bourgeau 3281 (P, S); Michoacan, Arsene 8443 (P, S); Oaxaca, Pringle 605557 (GH, K, P, S); Sierra Madre, Mueller 1127 (P); Temascaltepec, Hinton 8769 (K, S); Zimapan, Coulter 636 (K).

Guatemala. Alta Verapaz, Turckheim 1356, 7814 (K); Cocalaes, Rodriguez 49 (P); Coben, Turckheim 1356 (P); Dueuas, Oodman 264 (K); Santa Rosa, Lux 4304 (K).

Nicaragua. Nandaime, Levy 394 (P).

Costa Rica. Barka de Viejo, Conduz 13465 (P); Ochomogo, Pittier 13020 (K).

Distribution: Mexico, Guatemala, Nicaragua, Costa Rica.

12b var. *striatula* (DC.) W. T. Wang, comb. nov. — *C. sericea* H. B. K. ex DC. Syst. 1:144. 1818, non Michx. 1801; Prodr. 1:5 1824; Lourteig in Darwiniana 9(3~4):405, fig. 2. 1951. TYPE: In America merid. circa Santa Fez et forsan ad rivos fluminis Rio Majo dicti. Humb. & Bonpl. s. n. (holotype ? P!). — *C. sericea* var. *striatula* DC. l.c. 1818. TYPE: the same as that of *C. sericea* H. B. K. ex DC.

C. dioica L. ssp. *sericea* (H. B. K. ex DC.) Kuntze in Verh. Bot. Ver. Brand. 26:103. 1885.

C. thalictroides Steud. in Flora 39:407. 1856. TYPE: Peru. Tapina, Lechler Hrb. no. 1120 (isotype, P!).

C. haenkeana auct. non Presl; Lourteig in Lasser, Fl. Venez. 3: 31 1971, p. p. quoad

syn. *C. sericea* H. B. K. ex DC.; M. Johnson, Klematis 481. 1997, p. p. quoad syn. *C. sericea* H. B. K. ex DC.

Foliola vulgo ovata vel oblongo-ovata, raro subcordata, margine utrinsecus grosse 1 ~ 3-dentata, interdum integra, vulgo indivisa, raro 3-lobulata, subtus flavido-velutina vel dense vel sparse flavido-puberula.

Columbia. Bogota, Tracey 138 (K); Cordillieu, Goudot s. n. (K); Papayan, Lehman 5895 (K), Alston 7980 (P); Tena, Hartweg 871 (K, P); Tenasuca, Trina s. n. (K).

Ecuador. Carchi, Harling 12324 (P), Juncosa 2341 (MO); Cotopaxi, Haught 3251 (US); Chimaborazo, Camp 2981 (K, P); Rumibamba, Hartweg 870 (K, P).

Peru. Junia, Ferreyra 3714 (GH); Lima, Pennel 14295 (GH); Muna, Woytkowski 5262 (MO).

Bolivia. Larecaja, Mandon 866 (K); Sud Yungos, Gock 12763 (P); Tarija, Beck 778 (P).

Argentina. Tucuman, Schreiter 1225 (P), Venturi 1779 (US); Yala, Ancibor 14386 (P).

Distribution: Columbia, Ecuador, Peru, Bolivia, Argentina.

Because *C. sericea* H. B. K. ex DC. is a later homonym, it is an illegitimate name, and should not be used. For this taxon at varietal rank, De Candolle's var. *striatula* may be chosen. Thus, a new combination based on var. *striatula* is made as above.

Subsect. 2. **Insidiosae** W. T. Wang, subsect. nov. TYPE: *C. insidiosa* Baill.

Flos pistillatus sepalis 4 erectis lanceolato-linearibus praeditus, staminodiis carens.

Species 2, in insula Madagascar endemicae sunt.

13 Clematis insidiosa Baill. in Bull. Soc. Linn. Paris 1:331. 1882. TYPE: Madagascar. Nossi Cumba, 1850-07, Boivin 2116 (lectotype, designated here, P!); Mazangay, Bojer s. n. (syntype, P!).

C. saxicola Hils. & Bojer ex Baill. l.c., nom. nud.

C. edentata Baker in J. Linn. Soc. Bot. 21:318. 1884, syn. nov. — *C. ibarensis* Baker ssp. *edentata* (Baker) Viguier & Perrier in Mem. Inst. Sci. Madag. ser. B, 2(2):222. 1949; Perrier in Humbert, Fl. Madag. & Corm. 76 Fam. Ranunculac. 10, fig. 3:1 ~ 7. 1950; M. Johnson, Klematis 462. 1997, syn. nov. TYPE: Madagascar. Baron 2297 (holotype K!; isotypes, BM! P!).

C. orientalis L. ssp. *wightiana* var. *hoffmanii* Kuntze in Verh. Bot. Ver. Brand. 26: 126. 1885, syn. nov. TYPE: Madagascar. Beraviinteriov, 1879-07, Hildebrandt 3062 (holotype, K!).

C. grata Hoffman ex Kuntze l.c., nom. num.

C. hoffmanii Vatke ex Kuntze l.c., nom. num.

C. perrieri Lévl. in Repert. Sp. Nov. 7:99. 1909, syn. nov. TYPE: Madagascar. Ambongo, Perrier s. n. (holotype, P!).

C. perrieri var. *parvifolia* Lévl. l.c., syn. nov. TYPE: Madagascar. Malazamba, 1907-05, Perrier s. n. (holotype, P!).

C. biperrieri Lévl. in Bull. Acad. Intern. Geogr. Bot. 27:4 1917, syn. nov. TYPE: Madagascar. Maheranana, 1908-06, Perrier 4903 (holotype, P!).

Madagascar. Andrammavo, Rakotovao 4119 (P); Betroka, Humbert 20824 (P); Betamla,

Perrier 4917 (P); Emima, Bojer s. n. (K); Lac Ampijoroa, Gentry 11845 (K); Majunga, Afzelius s. n. (S); Marandava, Perrier 4917 (P); Maitunana, Perrier 617, 4909 (P); Mitsinjo, Debray 1447 (P); Tmerina, Hildebrandt 4035 (K); Zombitry, Humbert 29606 (P).

Distribution: Madagascar.

C. insidiosa Baill and *C. rutoides* W. T. Wang (see below) are unique in the sect. *Aspidanthera* in having small pistillate flowers with erect lanceolate-linear sepals and no staminodes. In other American, Australian and New Zealand species of that section, the pistillate flowers have spreading, oblong to linear sepals and many to few staminodes. These phenomena indicate that the two Madagascar species may represent a small isolated and advanced lineage within that section, and a new subsection accommodating them is described above.

Based on only one fruiting specimen, Kitching s. n., collected from Madagascar, Baker published his new species *C. ibarensis* in 1881. Thus in the original Latin description, there was no floral description. In the forties of the 20th century when the two French botanists, Viguiet and Perrier were studying the Madagascar *Clematis*, the deposited herbarium material including both flowering and fruiting specimens of *C. ibarensis* had grown rich enough. From its floral structure, it is clear that *C. ibarensis* Baker with bisexual flowers, spreading sepals and hairy stamen filaments is a member of the subsect. *Wightianae* of the sect. *Meclatis*. However, the two botanists (1949) determined the specimens of *C. ibarensis* Baker as *C. orientalis* L. ssp. *brachiata* Thunb. and ssp. *wightiana* Wall. and the specimens belonging to *C. rutoides* W. T. Wang (sect. *Aspidanthera*, see below) with unisexual flowers as *C. ibarensis* Baker. At the same time, they treated the dioecious species *C. edentata* Baker as a subspecies of their "*C. ibarensis*", and reduced *C. insidiosa* Baill. as a synonym of this subspecies. So, a taxonomical confusion resulted from their misidentifications. Unfortunately, Johnson (1997) might be unaware of these misidentifications, and in his monograph still followed the treatments made by Viguiet and Perrier.

C. insidiosa Baill. is really identical with *C. ibarensis* ssp. *edentata* (Baker) Viguiet & Perrier (*C. edentata* Baker) as the two botanists treated. However, the fact that *C. insidiosa* (1882) antedates *C. edentata* (1884) makes the latter a synonym of the former at species rank.

14 *Clematis rutoides* W. T. Wang, sp. nov. Fig. 1: 1~6.

C. ibarensis auct. non Baker: Viguiet & Perrier in Mem. Inst. Sci. Madag. ser B, 2(2): 222. 1949, p. p. excl. syn. *C. insidiosa* Baill. et *C. saxicola* Hils. & Bojer; Perrier in Humbert, Fl. Madag. & Comor. 76 Fam. Ranunculac. 8. 1950; M. Johnson, Klematis 462. 1997.

Affinis *C. insidiosae* Baill., quae foliis semel pinnatis 3~5-foliolatis, foliolis majoribus 3~6 cm longis 2~3.6 cm latis facile differt. Habitu similis *C. seemanii* Kuntze Americae australis, quae cymarum pistillatarum bracteis simplicibus oblanceolatis, floris pistillati sepalis 4~6 patentibus anguste ovatis intus pubescentibus, staminodiis praesentibus, ovariis et acheniis glabris valde recedit.

Liana sublignosa, dioica. Rami subteretes, graciles, ca. 2 mm diam., vadosae 10-canaliculati, dense adpresseque puberuli. Folia opposita, 2~3-pinnata, pinnis 3~4-jugis; foliola coriacea vel chartacea, late ovata, ovata vel elliptica, 0.3~2.2 cm longa, 0.2~1.4 cm lata, apice acuta vel obtusa, saepe mucronulata, basi rotundata, truncata vel cuneata, margine integra, raro 1-denticulata, indivisa vel interdum 2~3-lobata, supra subglabra vel sparse adpresseque puberula, sub-

tus sparse vel dense adpresseque puberula, nervis basalibus subtus prominulis; petioli 2 ~ 4.8 cm longi, plus minusve dense puberuli. Cymae staminatae axillares et terminales, 5 ~ 20-florae; pedunculi 3.6 ~ 4.1 cm longi, dense puberuli; bracteae foliaceae; pedicelli 1.6 ~ 2.4 cm longi, densissime puberuli. Flos staminatus 1.8 ~ 2 cm diam.; sepala 4 patentia, oblanceolato-lineararia, 5 ~ 9 mm longa, 1.5 ~ 1.8 mm lata, apice obtusa, intus glabra, extus dense adpresseque puberula; stamina 6 ~ 8 mm longa, glabra, filamentis anguste linearibus, antheris oblongis 0.8 ~ 1.2 mm longis apice obtusis. Cymae pistillatae axillares, 3 ~ 5-florae; pedunculi 0.8 ~ 3 cm longi, dense puberuli; bracteae foliaceae; pedicelli 5 ~ 10 mm longi, dense puberuli. Flos pistillatus ca. 6 mm diam.; sepala 4 erecta, lanceolato-lineararia, ca. 8.5 mm longa, 2.5 mm lata, apice attenuata, intus glabra, extus densissime adpresseque puberula; staminodia nulla; carpella ca. 5.2 mm longa, ovariis dense puberulis, stylis ca. 4.6 mm longis dense villosis. Achenia compressa, rhombica, 3 ~ 4 mm longa, 2 ~ 2.6 mm lata, puberula, anguste marginata, stylis persistentibus 2.7 ~ 4 cm longis plumosis.

Madagascar. Ambovombe, fleur veraatre, 1924-04-21, Decary 2551 (♂, holotype, P); same locality, 1924-05, Decary 2779, 2901, 8989 (♀, P), 1929-05, Decary 3786 (♂, P); Hmpanihy, 1910-06, Perrier 4899 (fr., P); Mt. Vahibory, 1910-07, Perrier 4894 (fr., P); Plateau Mahafaly, 1910-05, Perrier 4900 (fr., P); Didy, Cours 4629 (fr., P).

In its 2 ~ 3-pinnate leaves and small leaflets, *C. rutoides* easily differs from *C. insidiosa* in which the leaves are once pinnate and the leaflets are larger, 3 ~ 6 cm long, and 2 ~ 3.6 cm broad. In habit, *C. rutoides* is somewhat similar to the South American *C. seemanii* Kuntze, a member of the subsect. *Dioicae*, and differs from the latter in its foliaceous bracts of the pistillate cymes and in its pistillate flower having 4 erect lanceolate-linear, inside glabrous sepals, no staminodes, and hairy ovaries. In *C. seemanii*, the bracts of the pistillate cymes are simple, oblanceolate in outline, and the pistillate flower has 4 ~ 6 spreading, narrowly ovate, inside pubescent sepals, many staminodes and glabrous ovaries.

Subsect. 3. *Aristatae* Prantl.

15 *Clematis tuaensis* H. Eichler, in herb., sp. nov. Fig. 1: 7 ~ 9

Affinis *C. pickeringii* Gray, quae ramis subglabris, foliolis majoribus 4 ~ 10.5 cm longis 2.8 ~ 7 cm latis glabris, petiolis 5.5 ~ 12 cm longis, bracteis cymarum pistillatarum minoribus anguste linearibus vel subulatis 2 ~ 4 mm longis differt.

Liana lignosa, dioica. Rami subteretes, vadosi 8 ~ 10-canaliculati, puberuli. Folia opposita, ternata; foliola crasse chartacea, ovata, 1.5 ~ 3.7 cm longa, 0.8 ~ 2.6 cm lata, apice leviter obtusa, basi subcordata, truncata vel rotundata, margine integra, supra adpresse puberula, subtus dense adpresseque puberula, nervis basalibus 5 utrinque planis; petioli 3 ~ 5 cm longi, adpresse puberuli. Cymae staminatae axillares, laxae, 7 ~ 25-florae; pedunculi 4 ~ 10 mm longi, sparse vel dense flavido-puberuli; bracteae petiolatae, foliolis similes, 1.5 ~ 2 cm longae; pedicelli 9 ~ 20 mm longi, cum rhachidibus dense flavido-puberuli. Flos staminatus ca. 14 mm diam.; sepala 4, alba, patentia, lineari-lanceolata, 8 ~ 9 mm longa, 2 ~ 2.5 mm lata, apice attenuata, intus glabra, extus dense adpresseque puberula, margine velutina; stamina 2.8 ~ 4.5 mm longa, glabra, filamentis linearibus, antheris anguste oblongis 1 ~ 1.2 mm longis apice connectivorum projecturas late conicas ca. 0.2 mm longas gerantibus. Planta pistillata ignota.



Fig. 1 1~6. *Clematis rutoides* 1. Staminate flowering branch; 2. Sepal outside; 3. Sepal inside; 4. Stamen (from Decary 2551); 5. Pistillate flower (from Decary 8989); 6. Achene (from Cours 4629). 7~9. *C. tuaensis* 7. Staminate flowering branch; 8. Sepal outside; 9. Stamen (from Cruttwell 659).

Papua New Guinea. Tua MBD, alt. 1200 m, scrambling over bushes near stream, flowers cream white, 1955-11-12, Cruttwell 659 (♂, holotype, K); same locality, without flowers and fruits, 1961-04-16, Cruttwell 1176 (K).

This species is an ally of *C. pickeringii* Gray, differing from the latter in its puberulous branches, smaller leaflets, shorter petioles, and larger leaflet-like bracts of the staminate cymes. In

C. pickeringii, the branches are subglabrous, the leaflets are larger, 4 ~ 10.5 cm long, 2.6 ~ 7 cm broad, on both surfaces glabrous, the petioles are 5.5 ~ 12 cm long, and the bracts of the stam-



Fig.2 1~7. *Clematis sclerophylla* 1. Staminate flowering branch; 2. Sepal outside; 3. Sepal inside; 4. Stamen (from Schodde 2164); 5. Pistillate flower; 6. Staminode (from Sands 1039); 7. Achene (from Vink BW12062).

8~13. *C. cruttwellii* 8. Pistillate flowering branch; 9. Staminode; 10. Carpel (from Cruttwell 1172);

11. Staminate flower; 12. Sepal outside; 13. Stamen (from Cruttwell 658).

inate cymes are smaller, 2~4 mm long, narrowly linear or subulate in outline.

16 *Clematis cruttwellii* H. Eichler, in herb., sp. nov.; M. Johnson, *Clematis* 505, cum descr. suecica. 1997. Fig. 2: 8~13

Affinis *C. phanerophlebiae* Merr. & Perry, quae foliolis ovato-ellipticis vel late ovatis usque ad 6 cm latis, cymis staminatis et pistillatis multifloris, sepalis minoribus, eis florum staminatorum 6~8 mm longis, eis florum pistillatorum (7~)14~15 mm longis distinguitur.

Liana lignosa, usque ad 6 m longa, dioica. Rami tenues, vadosi 6~8-canaliculati, tantum ad nodos sparse adpressequae puberuli, ceterum glabri. Folia opposita, ternata, interdum 2-foliolata; foliola crasse coriacea, oblongo-elliptica, lanceolato-oblonga, lanceolata, vel anguste ovata, 3~7.5 cm longa, 1.3~2.7 cm lata, apice acuminata vel attenuata, basi obtusa, late cuneata vel rotundata, margine utrinsecus vulgo prope apicem 1~3-denticulata, interdum supra medium 3~4-denticulata, utrinque prope basin sparsissime pilosula vel glabra, supra reticulata, subtus conspicuissime reticulata, nervis basalibus 5 subtus valde prominentibus; petioli 3~6.3 cm longi, glabri vel sparse minuteque puberuli. Cymae staminatae axillares, 3~4-florae; pedunculi 4~10 cm longi, puberuli; bractae subulatae, ca. 1.8 mm longae; pedicelli 1.3~2.4 cm longi, dense adpressequae puberuli. Flos staminatus ca. 2 cm diam.; sepala 4, alba, anguste oblonga, ca. 15 mm longa, 5 mm lata, apice leviter obtusa, intus glabra, extus sparse adpressequae puberula, margine velutina; stamina 4~10 mm longa, glabra, filamentis anguste linearibus, antheris anguste oblongis 1.2~1.5 mm longis apice obtusis vel connectivorum projecturas punctiformes ca. 0.1 mm longas gerantibus. Cymae pistillatae axillares, 3~4-florae; pedunculi ca. 5.5 cm longi, cum pedicellis dense adpressequae puberuli; bractae subulatae, 4 mm longae; pedicelli 2.7~3 cm longi. Flos pistillatus 4.5~6 cm diam.; sepala 4, alba, roseo-vel viridulo-suffusa, patentia, lanceolato-lineararia, 2.2~2.8 cm longa, 5 mm lata, apice attenuata, intus glabra, extus sparse adpressequae puberula, margine velutina; staminodia ca. 2, 10~11 mm longa; carpella numerosa, ovaris dense puberulis, stylis 10~11 mm longis dense villosis.

Papua New Guinea. Mt. Gangun, alt. 1600 m, clearing in edge of *Nothofagus-Castanopsis* forest, pistillate flowers white tinged pink and green, 1961-04-17, Cruttwell 1172 (♀, holotype, K); same locality, mossy forest, 1955-11-12, Cruttwell 658 (♂, K); Mt. Patana, alt. 2100 m, margin of mossy forest, male flowers white, with yellow stamens, 1962-08-12, Cruttwell 1375 (♂, K); Goropu Mountains (Mt. Suckling), alt. 1800 m, 1972-06-09, Veldkamp & Stevens 5521 (♂, US).

This species is related to *C. phanerophlebia* Merr. & Perry in its coriaceous and strongly reticulate leaves, but differs from the latter in its narrower oblong-elliptic to lanceolate leaflets, 3~4-flowered inflorescences and larger flowers with sepals of staminate flower being 15 mm long and those of pistillate flower 22~28 mm long. In *C. phanerophlebia*, the leaflets are ovate-elliptic or broadly ovate in outline, the inflorescences are many-flowered and panicle-like, and the flowers are smaller, with sepals of staminate flower 6~8 mm long and those of pistillate flower 14~15 mm long.

17 *Clematis sclerophylla* W. T. Wang, sp. nov. Fig. 2: 1~7

Proxima *C. phanerophlebiae* Merr. & Perry, quae planta tota siccitate plus minusve nigrescente, foliolis subtus glabris, pedunculis sparsissime pilosis, sepalis siccitate valde nigrescentibus differt.

Liana lignosa, dioica, usque ad 5 m longa, siccitate haud nigrescens. Rami subteretes, vadosae 10 ~ 12-canaliculati, vulgo dense adpresseque puberuli. Folia opposita, ternata, suprema interdum simplicia; foliola crasse coriacea, elliptica, ovata, vel late ovata, raro longe elliptica vel anguste ovata, 5 ~ 7.5 cm longa, 2.5 ~ 6 cm lata, apice acuminata, basi rotundata, margine integra, supra primo dense adpresseque puberula, deinde glabrescentia, subtus dense puberula et reticulata, nervis basalibus 5 subtus prominentibus; petioli 3 ~ 8 cm longi, dense puberuli vel velutini. Cymae staminatae axillares, usque ad 30 cm longae, paniculiformes, multiflorae; pedunculi ca. 7 cm longi, cum rhachidibus dense flavido-velutini; bractae subulatae, ca. 8 mm longae, flavido-velutinae; pedicelli 2 ~ 4 mm longi, dense flavido-puberuli. Flos staminatus 6 ~ 8 mm diam.; sepala 4, alba, patentia, anguste oblonga vel obovato-oblonga, 3.5 ~ 4.8 mm longa, 1 ~ 1.8 mm lata, apice truncata, interdum emarginata, intus glabra, trinervia, extus dense adpresseque puberula, margine velutina; stamina 2 ~ 4 mm longa, glabra, filamentis linearibus, antheris oblongis vel late oblongis 0.8 ~ 1 mm longis apice connectivorum projecturas subulatas ca. 0.5 mm longas gerantibus. Cymae pistillatae axillares, 8 ~ 40 cm longae, paniculiformes, multiflorae; pedunculi 2 ~ 16 cm longi, dense puberuli; bractae foliaceae, ca. 4.5 cm longae, vel simplices, anguste triangulares, 2 ~ 3 mm longae; pedicelli 3 ~ 12 mm longi, dense flavido-puberuli. Flos pistillatus 1 ~ 1.6 cm diam.; sepala 4, alba, patentia, anguste oblonga vel linearia, 6 ~ 8.5 mm longa, 1 ~ 2 mm lata, apice obtusa, intus glabra, trinervia, extus adpresseque puberula, margine velutina; staminodia ca. 3, 6.5 ~ 10 mm longa, antheris valde minutis instructa; carpella 12 ~ 20, ovariis pubescentibus, stylis 4 ~ 6 mm longis dense villosis. Achenia compressa, anguste elliptica vel anguste rhombico-obovata, 2.2 ~ 2.8 mm longa, 1 ~ 1.2 mm lata, patule puberula; styli persistentes 2 ~ 4.5 cm longi, alboluinosi.

Papua New Guinea. Southern Highland District, near Tage, Lake Kutubo, alt. 810 m, in primary forest, flowers white, 1961-09-18, Schodde 2164 (♂, holotype, K); Amanab Subdistrict, Bewani Mts., alt. 250 m, by river, 1970-03-30, Sands 1213 (♂, paratype, K); Morobe District, Edie creek Road, fl. white, 1969-11-26, Streimann 44457 (♀, K); West Sepik District, Bewani Mts., alt. 280 m, fl. white, 1970-03-13, Sands 1039 (♀, K). **Indonesia.** Irian Jaya: Biak, alt. 10 m, in forest, 1961-07-04, Vink 12602 (fr, K).

This species is closely related to *C. phanerophlebia*, and differs from the latter in its whole plant not turning black when drying, in its leaflets being densely puberulous abaxially, in its peduncles being velutinous or densely puberulous, and in its sepals not turning black and conspicuously 3-nerved when drying. In *C. phanerophlebia*, the whole plant turns black when drying, the leaflets are glabrous abaxially, the peduncles are very sparsely pilose, and the sepals turn deep black when drying and at the same time their nerves are not visible.

Sect. 4. *Meclatis* (Spach) Tamura.

Subsect. 1. *Wightianae* (Prantl) W. T. Wang, comb. nov. —Sect. *Flammula* DC. 13 *Wightianae* Prantl in Bot. Jahrb. 9:261. 1888. LECTOTYPE: *C. wightiana* Wall. ex Wight & Arn.

Sect. *Clematis* subsect. *Africanae* M. Johnson, *Klematis* 416. 1997, p. p. excl. *C. ibarensis* ssp. *edentata* (Baker) Viguier & Perrier et *C. sigensis* Engler, syn. nov. TYPE: *C. hirsuta* Perr. & Guill.

Sepala alba, raro purpurea, patentia. Filamenta anguste linearia.

18 Clematis viridiflora Bert. Misc. Bot. 19:7, t. 3. 1858; Milne-Redhead & Turrill, Fl. Trop. E. Afr. 5. 1952; Exell & Milne-Redhead, Fl. Zambes. 1:90. 1960; M. Johnson, Klematis 469. 1997. TYPE: E Africa. Inhambane, Fornasimi s. n. (holotype, BO, not seen).

C. stolzi Engler in Bot. Jahrb. 45:272. 1911, syn. nov. TYPE: Malawi. Nyassa Highland, Kyimbila, 1907-06-04, Stolz 161 (holotype, B, not seen; isotypes, BM! K! S! UPS!).

C. simensis auct. non Fresen.: M. Johnson, Klematis 466, 1997, p. p. quoad syn. *C. stolzi* Engler.

Kenya. Marok, Glover & Samuel 3056 (K); Mathews Rango, Newbould 3560 (S); Mulubani, Williams 690 (K); Mathews Range, Newbould 3560 (s); Nieri, Fries 217 (s).

Zaire. Dilolo, Young 176 (S).

Tanzania. Amani, Luchman 1 (K); Kilosa, Abberley 1314 (K); Mwanza, Tanner 1523 (K); Cheminda, Braun 1243 (K); Lushoto, Ngaundai 444 (K).

Mozambique. Chwaka, Williams 62, 96 (K); Gaza Barbara 8549 (K); Makunduchi, Williams 38 (K); Chipenhe, Lemos & Balsinhas 37 (K).

Malawi. Chiriadzulu, Brummit & Patel 15616 (K); Mt. Mulanje, Chapman 5714 (K); Mzimba, Pawek 13658 (K); Liwonde National Park, Dudley 1969 (K).

Zambia. Chisaba, Michelmores 659 (K); Mbala, Sanane 520 (K).

Angola. Huila, Menezes 3262 (K).

Distribution: Kenya, Zaire, Tanzania, Mozambique, Malawi, Zambia, Angola.

In his monograph, Johnson (1997) reduced *C. stolzi* Engler to the synonymy of *C. simensis* Fresen. However, Stolz 161, the type of *C. stolzi*, has 3-lobed leaflets, lax inflorescences, and larger flowers, which falls into the morphological circumscription of *C. viridiflora* Bert., and should be determined as the latter species. As to *C. simensis*, it is a close ally of *C. viridiflora*, differing from the latter in its undivided leaflets, dense inflorescences, and smaller flowers.

19 Clematis hirsuta Perr. & Guill. Fl. Seneg. Tent. 1:1. 1830; Hutch. & Dalz. Fl. W. Trop. Afr. 1:67. 1927; Exell & Mend. Consp. Fl. Angol. 1:3. 1937; Staner & Leon. in Bull. Soc. Bot. Belg. 82:331. 1950, p. p. excl. syn. *C. inciso-dentata* A. Rich. et *C. oliveri* Kuntze; Milne-Redhead & Turrill, Fl. Trop. E. Afr. 6. 1952, p. p. excl. syn. *C. inciso-dentata* A. Rich.; Keay, Fl. W. Trop. Afr., 2nd ed. 1:64. 1954; Lind & Tallan. Flow. Pl. Uganda 44, fig. 2. 1962; Berhaut, Fl. Seneg. 2e ed. 64. 1967; Troupin, Fl. Rwanda 1:271, fig. 57:1. 1978; Troupin & Bridson, Fl. Pl. Lign. Rwanda 508, fig. 172. 1982; Thulin, Fl. Somalia 1:14. 1993; Wood, Handb. Yemen Fl. 65. 1997, excl. syn. *C. wightiana* Wall.; M. Johnson, Klematis 459. 1997, p. p. TYPE: Senegal. Cape Verde Peninsula, Leprieux s. n. (holotype, P, fide Milne-Redhead & Turrill 1952 l.c., not seen).

C. glaucescens Fresen. in Beitr. Fl. Abyss. Mus. Senckenb. 2(3):268. 1837; Walp. Repert. Bot. 1:4. 1843; A. Rich. Tent. Fl. Abyss. 1:1. 1847; Prantl in Bot. Jahrb. 9: 261. 1888; Durand & Schinz, Consp. Fl. Afr. 1(2):3. 1895; Durand & Schinz, Etud. Fl. Congo 55. 1896; Durand, Syll. Fl. Congo. Phan. 13. 1909. — *C. orientalis* L. var. *glaucescens* (Fresen.) Engler, Hochgeb. Trop. Afr. 217. 1892. TYPE: Ethiopia. Ruppell s. n. (holotype, FR, not seen; photo, K!).

C. wightiana Wall. var. *pilosissima* Engler in Bot. Jahrb. 30: 309. 1902. TYPE: Tanzania. Livingston Mts., 1900-01, Goetze 1283 (holotype, B, not seen; photo, K!).

C. burgensis Engler in Bot. Jahrb. 45: 272. 1910. TYPE: Gallahochland, Burgi, Riva 1348 (holotype, B, not seen).

C. antunesii Engler l. c. 274. TYPE: Benguela. Huilla, Antunes 56 (holotype, B, not seen).

C. wightiana Wall. var. *gallaensis* Engler in Wiss. Ergeb. Deutsch. Zent.-Afr. Exped. 1907 ~ 1908, 2: 207. 1914. TYPE: Galla Highland. Erlanger 11333, Ellenbeck 1266 (syntypes, B, not seen). Seenzone. Mildbread 181, 219 (syntypes, B, not seen).

C. friesiorum Ulbr. in Notizbl. Bot. Gart. Berl. 10: 914. 1930. TYPE: S Kenya. between Jaracuma and Meru, 1922-02, Fries 1598 (holotype, UPS!; isotypes, K! S!).

C. djalonenensis Cheval. in Bull. Mus. Hist. Nat. Paris, ser. 2, 4: 1010. 1930; M. Johnson, Klematis 458. 1997, syn. nov. TYPE: Guinea. Laba dans le Fouta-Djalon, 1930-11, Chevalier 34545 (holotype, P!).

C. djalonenensis var. *latipaniculata* Cheval. l. c.; M. Johnson l. c. 459, syn. nov. TYPE: Guinea. Ymbo-Orobe, Fouta-Djalon, 1905-11, Caille 14814 (holotype, P!).

C. djalonenensis var. *hirsutissima* Cheval. l. c.; M. Johnson l. c., syn. nov. TYPE: Guinea. Mali, Chevalier 34328 (syntype, P!); Mt. Loura, Chevalier 34329 (syntype, P!).

C. chariensis Cheval. l. c. 1012; M. Johnson l. c. 457, syn. nov. TYPE: Chad. Chari, 1902-11, Chevalier 6192 (holotype, P!; photo, K!).

C. thunbergii auct. non Steud.: Oliv. Fl. Trop. Afr. 1: 6. 1868.

C. orientalis L. ssp. *wightiana* auct. non (Wall. ex Wight & Arn.) Kuntze: De Wild. Etud. Fl. Bos. & Moyen-Congo 1: 244. 1906; Durand, Syll. Fl. Congo. Phan. 14. 1909.

C. wightiana auct. non Wight & Arn.: De Wild. in Ann. Soc. Sci. Brux. 37(2): 74. 1913; et Pl. Bequet 2: 34. 1923; Robyns, Fl. Sperm. Parc Nat. Albert 1: 169. 1948; Migahid, Fl. Saudi Arabia, 2nd ed. 1: 33. 1978.

C. inciso-dentata auct. non A. Rich.: Collenette, Illustr. Guide Fl. Saudi Arabia 416. 1985.

Varietatum clavis analytica

1a. Foliola subtus dense vel sparse puberula, interdum subglabra vel velutina; sepala utrinque dense puberula vel velutina.

2a. Foliola subtus dense vel sparse puberula, vel velutina.

3a. Foliola subtus reticulata, dense vel sparse puberula, vel velutina 19a. var. **hirsuta**

3b. Foliola subtus haud reticulata, dense puberula 19c. var. **junodii**

2b. Foliola subtus subglabra 19b. var. **glabrescens**

1b. Foliola subtus densissime sericeo-lanata; sepala intus glabra, extus velutina 19d. var. **inciso-dentata**

19a. var. **hirsuta**

Saudi Arabia: Bijurhi, Collenette 1324 (K); Asir, Hedberg 92181 (UPS).

Ethiopia. Adoam, Schimper 212 (K); Jimma, Stewart 23 (K); Addis Ababa, Albers 61205 (K), Meyer 7451 (US); Eritrea, Ryding 1502 (UPS).

Sudan. Gilo, Friis & Velloso 427; Jeber Marra, Robertson 7 (K).

- Chad.** Chari, Chevalier 6074, 6400; Oolaki, Fotius 1165 (P).
Central Africa. Boguila Fay 5268; Diadoulou, Fay 3534 (K).
Nigeria. Bookkos, Coombe 75 (K); Naraguta Hills, Coombe 10 (K, P).
Benin. Savi, Annet 31 (P).
Togo. Dapaon, Em *et al.* 1346 (P); Buttner 275 (P).
Ghana. Ejura, Morton 9534 (K); Amezofe, Valdekamp 6108 (K); Tonogo, Morton 3465 (K).
Cote D'Ivoire. Boundioili, Cesow 292 (P); Tonba, Roberty 11811 (K).
Mali. Dioubeba, Chevalier 15 (P).
Senegal. Dakar, Adam 17747 (P); Haka, Diallo 21304; Mt. Roland, Chevalier 2537 (P).
Guinea. Kindia, Jacques s. n.; Mt. Loura, Chevalier 34423 (P).
Sierra Leone. Falaba, Morton 2843; Musaia, Deighton 4483 (K).
Cameroon. Bambui, Baier 144 (K); Befang, Satabie 182 (P); Rhumsiki, Hepper 3933 (K); Dschang, Jacques-Félix 2615 (P); Sabal Haleo, Letouzey 2595 (P).
Gabon. Pakozambi, Testu 1600 (P).
Zaire. Edouard, Humbert 8205 (P); Kivu, Stauffer 484 (K), Kassner 3188 (P).
Uganda. Kigezi, Stauffer 608 (P), Purseglove 3248 (K); Mt. Eelgen, Lind 429 (K).
Kenya. Nairobi, Williams 12321 (K, UPS); Ngong Hills, Stewart 721 (K); Sditik Hills, Greenway 7851 (K, US); Katani, Gillett 16848 (K); Sirwan, Newbould 3406 (K).
Rwanda. Rubona, Michel 5469; Rwinkwavu, Lewalle 675 (K).
Brundi. Bukemba, Reekmans 10258 (K, UPS); Lore, Robyns 2296 (P).
Tanzania. Kilimanjaro, Johnston 198 (K); Lake Tanganyika, Kassner 3035 (P).
Mozambique. Revoue, Vasse 219 (P).
Zimbabwe. Umtali, Chase 4887 (P).
Zambia. Abercom, Richards 22294 (P).
Angola. Escola, Welwitsch 1207 (P); Dundo, Gossweiler 13989 (P).
 Distribution: Asia (S Saudi Arabia, Yemen), Africa (widespread in tropical and subtropical regions).

In the twenties of the seventeenth century, two French botanists, Perrottet and Leprieur, explored Senegal and its adjacent regions. Based on their plant collections, Guillemain, Perrottet, and Richard (1831) described various new species, including *Clematis hirsuta* Perr. & Guill. In the protologue of *C. hirsuta*, only type locality prope Kounon et Rufisk, Promontorii-Viridis (Cap-Vert) suburbia was mentioned, without information about the collector's name and the specimen number. According to Milne-Redhead & Turill (1952, l.c.), the holotype of *C. hirsuta* is Leprieur s. n., deposited in P. Unfortunately, in 1999 in P, I failed to find out this holotype. However, in BM that year I saw a specimen, Perrottet 1, collected from Senegal on March 15th, 1829, which has been there considered as the type specimen of *C. hirsuta*.

19b var. *glabrescens* Cheval. in Bull. Mus. Hist. Nat. Paris, ser. 2, 4:1011. 1932; Staner & Leon. in Robyns, Fl. Congo Belg. & Ruanda-Urundi 2:194. 1951; M. Johnson, Klematis 461 1997. TYPE: Senegal. Niayes, 1899-12, Chevalier 2536 (holotype, P!).

? *C. orientalis* L. ssp. *thunbergii* var. *glabrescens* Kuntze in Verh. Bot. Ver. Brand. 26:

125. 1885. TYPE: "Africa extratropica", no type specimen designated.

C. thunbergii Steud. var. *congensis* Cheval. in Bull. Mus. Hist. Nat. Paris, ser. 2, 4;

1012. 1932, syn. nov. TYPE: Moyen-Congo. Djoue, 1912-07, Chevalier 27466 (holotype, P!).

C. triloba Thunb. var. *congensis* (Cheval.) M. Johnson, Klematis 469. 1997, syn. nov.

Senegal. Kedougou, Fotius 13530 (P).

Congo. Kisanu, Touis 20 (US).

Kenya. Mosai, Hedberg 1437 (UPS).

Brundi. Bururi, Reekmans 10258 (UPS).

Angola. Lunda, Gossweiler 13989 (US).

Distribution: Senegal, Congo, Kenya, Brundi, Angola.

19c var. *junodii* (Burt Davy) W. T. Wang, comb. nov. — *C. oweniae* Harv. var. *junodii* Burt Davy, Man. Flow. Pl. & Ferns Transv. 1:111. 1926. TYPE: South Africa. Transvaal, Shilouvane, Junod 1063 (holotype, K!).

Mozambique. Chimoia, Chase 6923; Tete, Macedo 5141 (K).

Malawi. Kota-Kota, Brass 17112; Chitipa, Philips 2823; Rumphu, Pawek 5547 (K).

Zambia. Lusasa, Hutchinson & Gillett 3597; Chalimbana, Robinson 2215; Kawambwa, Richards 9421 (K); Namwala, White 2986 (K).

Distribution: South Africa (Transvaal), Mozambique, Malawi, Zambia.

19d var. *inciso-dentata* (A. Rich.) W. T. Wang, st. nov. — *C. inciso-dentata* A. Rich. Tent. Fl. Abyss. 1:2 1847; Andrews, Flow. Pl. Anglo-Egypt. Sudan 1:10. 1950. — *C. orientalis* L. ssp. *wightiana* var. *typica* f. *inciso-dentata* (A. Rich.) Kuntze in Verh. Bot. Ver. Brand. 26:125. 1885. TYPE: Ethiopia. Prov. Choa, 1846, Richard s. n. (holotype, P, not seen; isotype, K!).

C. oliveri Kuntze l. c. 165, syn. nov. TYPE: Ethiopia. Schimper s. n. (holotype, K!).

Distribution: Ethiopia, Sudan (fide Andrews l. c.).

C. hirsuta is the most widespread species of the genus *Clematis* in Africa, and highly variable in indumentum, leaflet and flower size, anther shape and length etc. After examining the rich herbarium material of *C. hirsuta* deposited in K and P, I am clear that this species consists of four varieties, and provide a key to them as above.

Burt Davy (l. c.) treated var. *junodii* as belonging to *C. oweniae*. However, this variety with 5-foliolate pinnate leaves and thinly papery larger broadly pentagonal-ovate leaflets up to 6 cm long and broad is similar to *C. hirsuta*, but not to *C. oweniae*. In *C. oweniae*, the leaves are usually bipinnate, and the leaflets are narrower, ovate in outline, thicker in texture, and smaller in size, 1 ~ 4 cm long and 0.8 ~ 2 cm broad. So, in the present paper, I transfer it from *C. oweniae* to *C. hirsuta*. In *C. hirsuta*, the distribution area of var. *junodii* is situated at the southernmost part of that of var. *hirsuta* and the northernmost part of that of *C. brachiata* Thunb., which is a close ally of *C. hirsuta* and widespread in South Africa and adjoining regions.

Var. *inciso-dentata* (*C. inciso-dentata* A. Rich.) is characterized by the sericeous-lanate indumentum of leaflets and the glabrous inner surfaces of sepals, and by these characters may distinctly be distinguished from the other three varieties of *C. hirsuta*. However, Staner & Leonard (1950 l. c.), Milne-Redhead & Turrill (1952 l. c.), and Johnson (1997) all reduced *C. inciso-dentata* to

the synonymy of *C. hirsuta*.

20 *Clematis comoresensis* W. T. Wang, sp. nov. Fig. 3:1~4

C. orientalis L. ssp. *simensis* auct. non (Fresen.) Kuntze: Viguier & Perrier in Mem. Inst. Sci. Madag., ser. B, 2(2): 223. 1949, p. p. quoad pl. Comores.; Perrier in Humbert, Fl. Madag. & Comor. 76 Fam. Ranunculac. 13. 1950, p. p. quoad pl. Comores.

C. orientalis L. ssp. *brachiata* auct. non (Thunb.) Kuntze: Viguier & Perrier l.c., p. p. quoad pl. Comores.; Perrier in Humbert l.c., p. p. quoad pl. Comores.

Similis *C. oweniae* Harv. Africae australis, quae foliolis crassioribus coriaceis vel crasse papiraceis angustioribus 0.5~2.8 cm latis margine saepe inciso-dentatis, antheris minoribus 0.8~1.1 mm longis, stylis persistentibus brevioribus ca. 2 cm longis facile distinguitur.

Liana sublignosa. Rami subteretes, vadosae 6~8-canaliculati, puberuli, glabrescentes. Folia opposita, bipinnata, 11~13-foliolata; foliola herbacea, ovata vel anguste lateve ovata, 3.5~5.8 cm longa, 2.2~5 cm lata, apice longe acuminata vel caudato-acuminata, basi cordata vel rotundata, margine dentata, dentibus apice mucronulatis, infra medium 3-lobata vel indivisa, supra adpresse puberula, subtus ad nervos adpresse puberula, nervis basalibus leviter prominentibus; petioli 3.8~6 cm longi, puberuli. Cymae axillares et terminales, multiflorae, paniculiformes; pedunculi 3.4~7.5 cm longi, puberuli. Flos 1.4~1.8 cm diam.; sepala 4, patentia, ovato- vel obovato-oblonga, 7~10 mm longa, 2~5 mm lata, apice acutiuscula, utrinque puberula, extus ad margines velutina; stamina 5~7.5 mm longa, filamentis anguste linearibus villosulis, antheris oblongis 1.4~1.6 mm longis glabris apice obtusis; carpella numerosa, ovariis puberulis, stylis 5~6 mm longis dense villosis. Achenia compressa, ovata, ca. 3 mm longa, 2.6 mm lata, pubescentia; styli persistentes ca. 4.6 cm longi, plumosi.

Africa. Island Comores: without precise locality, Humblot 1518 (holotype P), 1217 (P); Moheli. 1847-09, Boivin s. n. (P).

This species is somewhat similar to the South African species *C. oweniae* Harv., differing from the latter in its thinner herbaceous broader and dentate leaflets, larger anthers, and longer persistent styles. In *C. oweniae*, the leaflets are thicker, coriaceous or thickly papery, narrower, 0.2~2.8 cm broad, at margin often incised-dentate, the anthers are smaller, 0.8~1.1 mm long, and the persistent styles are shorter, about 2 cm long.

In their account of Madagascar *Clematis*, Viguier & Perrier (1949) enumerated three subspecies of *C. orientalis* L. Under their ssp. "*brachiata* Thunb.", the specimens cited by them in fact belong to either *C. ibarensis* Baker or *C. comoresensis* W. T. Wang; under their ssp. "*wightiana* Wall.", those cited by them belong to either *C. ibarensis* Baker or *C. laxiflora* Baker; and under their ssp. "*simensis* Fresen.", those cited by them belong to *C. ibarensis* Baker, *C. mauritiana* Lam., *C. microcuspis* Baker, and *C. comoresensis* W. T. Wang respectively. As a matter of fact, *C. brachiata* Thunb. is endemic to South Africa, *C. wightiana* Wall. ex Wight & Arn. to southern India, and *C. simensis* Fresen. to eastern mainland Africa. Besides, the Asian species *C. orientalis* L. with yellow and ascending sepals and lanceolate-linear filaments is a member of the subsect. *Orientales* (see below), and is not closely related to the three species just mentioned above, in which the sepals are white and spreading, and the filaments are narrowly linear in outline.

Subsect. 2. **Orientales** Prantl in Bot. Jahrb. 9:260. 1888, p. p. LECTOTYPE: *C. orientalis* L.

Sepala flava, raro purpureo-suffusa vel rubra, ascendentia. Filamenta lanceolato-lineararia vel anguste lanceolata, raro anguste linearia.

21 毛萼甘青铁线莲 变种

Clematis tangutica (Maxim.) Korsh. var. **pubescens** M. C. Chang & P. P. Ling in Fl. Reip. Pop. Sin. 28: 356, 1980. TYPE: China. Xizang, Zhagyab, Qinghai-Xizang Exped. 13014 (holotype, PE!).

C. tibetana Kuntze ssp. *vernayi* (C. E. C. Fisch.) Grey-Wilson var. *dentata* Grey-Wilson in Kew Bull. 44(1):48, fig. 1:2. 1989, syn. nov. TYPE: China. Gansu, Radja, Rock 14124 (holotype, K, not seen; isotype, S!).

The two type specimens of the two varieties just cited above are identical, representing a same taxon. This taxon is very similar to *C. tangutica* and differs from the latter only in its puberulous inner surface of sepals. So, I would adopt the treatment to this taxon as a variety of *C. tangutica* by M. C. Chang & P. P. Ling (l.c.).

Sect. 5. **Viticella** (Moench) DC.

Subsect. 1. **Viticellae** Tamura.

22 吴兴铁线莲

Clematis huchouensis Tamura in Acta Phytotax. Geobot. 23(1~2): 36, cum photo. 1968; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 207, pl. 66. 1980; Fl. Jiangsu. 2: 170. 1982; W. T. Wang in Bull. Bot. Res. Harbin 9(2):8. 1989; Fl. Zhejiang 2: 295. 1992; M. Johnson, Klematis 671. 1997. TYPE: China. Zhejiang: Huzhou, collector unknown (holotype, MAK, not seen).

C. cadmia auct. non Buch.-Ham. ex Hook. f. & Thoms.: Hand.-Mazz. in Acta Hort. Gotob. 13: 198. 1939, p. p. quoad specim. e Hunan et Zhejiang lecta.

Specimens cited by Handel-Mazzetti under *C. cadmia*: **China. Hunan**: Yo-chou, Morse 30 (K). **Zhejiang**: Hangzhou, Hickin s. n. (K); Ningbo, Aug. 1885, Faber s. n. (K).

This Chinese species with ascending sepals, linear anther longer than filament, and connectives being conspicuously projected at apex is similar to the Italian species *C. rigoi* described below, and may be distinguished from the latter by its not or slightly dilated sepals, glabrous filaments and entirely pubescent styles.

This species was described by Tamura in 1968. However, in the 1930's, H. Handel-Mazzetti (l.c.) had examined three specimens of this species cited above, and determined them as *C. cadmia*. In his monograph, Johnson (1997) correctly put this species near to *C. scandens* Huter, Porta & Rigo (= *C. rigoi* W. T. Wang, see below).

23 Clematis rigoi W. T. Wang, sp. nov. Fig. 3:5~8

C. scandens Huter, Porta & Rigo in Nuov. Giorn. Bot. Ital. 11:272. 1879, nom. nud., non Borkh., 1803; Prantl in Bot. Jahrb. 9:259. 1888; M. Johnson, Klematis 672. 1997. — *C. viticella* L. ssp. *revoluta* Kuntze var. *scandens* Kuntze in Verh. Bot. Ver. Brand. 26:137. 1885, syn. nov. — *C. viticella* L. var. *scandens* (Kuntze) Fiori, Fl. Analit. Ital. 1:491. 1896; et Nuov. Fl. Analit. Ital. 648. 1924. — *C. viticella* L. var. *revoluta* f. *scandens*

(Kuntze) Pamp. Fl. Rep. San Marino 115. 1930. — *C. viticella* f. *scandens* (Kuntze) Zangheri, Fl. Ital 1: 154. 1976. TYPE: holotype collected from Calabria, Italy, not seen.



Fig.3 1~4. *Clematis comoresensis* 1. Flowering branch; 2. Flower; 3. Sepal outside; 4. Stamen (from Humboldt 1518).
5~8. *C. rigoi* 5. Flowering branch; 6. Sepal outside; 7. Stamen; 8. Gynoecium (from Rugo 397).

C. campaniflora auct. non Brot.: Cavara in Nuov. Giorn. Bot. Ital. 14(4):523. 1907.

C. viticella var. *campaniflora* auct. non (Brot.) Willk.: Fiori, Iconogr. Fl. Ital. 188, fig.

1625. 1921.

Ob calycem sepalis erecto-patentibus late campanulatum arcte affinis *C. campaniflorae* Brot., quae foliolis subtus subglabris vel ad nervos tantum sparsissime puberulis, floribus minoribus 1.3 ~ 2.2 cm diam., sepalis minoribus 1 ~ 1.4 cm longis 4 ~ 5 mm latis, cujusque lateris parte marginali dilatata 1.5 ~ 2.5 mm lata, antheris anguste oblongis filamentis leviter brevioribus, connectivorum projecturis multo brevioribus punctiformibus ca. 0.1 mm longis distinguitur. A *C. viticella* L. foliolis subtus dense puberulis, floribus minoribus 2.5 ~ 3.6 cm diam., sepalis erecto-patentibus, antheris filamenta superantibus, connectivis apice conspicue longiusque projectis facile differt.

Liana sublignosa. Rami 4 ~ 6-angulati, vadosissime 4 ~ 6-canaliculati, dense adpressequae puberuli. Folia opposita, bipinnata, suprema pinnata; foliola herbacea vel tenuiter papyracea, ovata vel anguste ovata, interdum anguste rhombica, 0.8 ~ 4.2 cm longa, 0.4 ~ 2.6 cm lata, apice obtusa vel acutiuscula, interdum attenuata, basi rotundata vel late cuneata, interdum cuneata, margine integra, raro 2-denticulata, indivisa, vel 2 ~ 3-lobata, supra ad nervos sparse puberula subtus dense adpressequae puberula, nervis basalibus subtus fere planis; petioli 0.4 ~ 4.8 cm longi. Cymae axillares et terminales, 2 ~ 7-florae; pedunculi 2.5 ~ 5.6 cm longi, puberuli; bracteae breviter petiolatae, 3-sectae vel 3-partitae, 1.2 ~ 2.5 cm longae; pedicelli 1.6 ~ 5 cm longi, puberuli vel subglabri. Flos 2.5 ~ 3.6 cm diam.; sepala 4, erecto-patentia, obovato-oblonga, 1.8 ~ 2.4 cm longa, 6 ~ 9 mm lata, apice flabellato-rotundata, mucronata, trinervia, margine supra medium dilatata (cujusque lateris parte dilatata 3 ~ 4.5 mm lata), intus glabra, extus ad margines dilatatos densissime adpressequae puberula, ad partes centrales trinerves sparse puberula; stamina 5 ~ 6 mm longa, filamentis late cuneato-linearibus 1.8 ~ 3 mm longis apice sparsissime ciliolatis, antheris linearibus filamenta superantibus 3.2 ~ 4 mm longis glabris, connectivis apice in appendices lanceolatas 0.3 ~ 0.6 mm longas distincte projectis; carpella 9 ~ 13, ca. 6.5 mm longa, ovaris anguste ovoideis ca. 1.5 mm longis dense adpressequae pubescentibus, stylis ca. 5 mm longis basi tantum pubescentibus vel totis glabris.

Italy. Calabria: Sibari, on rocks, 1898-06-19, Rigo 397 (holotype, S); same locality, 1907-06-27, Rigo s. n. (S); Lucania, Tolve, alt. 300 m, 1921-06, Fiori & Béguinot 2873 (US).

This species is closely related to the Portuguese species *C. campaniflora* Brot. in having ascending sepals and broadly campanulate calyx, and from the latter differs in the abaxially densely puberulous leaflets, larger sepals, linear anthers, and apical conspicuous lanceolate projections of connectives. In *C. campaniflora*, the leaflets are abaxially nearly glabrous or only on veins sparsely puberulous, the sepals are smaller, 10 ~ 14 mm long, 4 ~ 5 mm broad, their marginal dilated parts are small as well, 1.5 ~ 2.5 mm broad, the anthers are narrowly oblong, and the connective projections are very small, punctiform, only about 0.1 mm long.

Clematis scandens Huter, Porta & Rigo is both a nude name and a later homonym. So, this name is illegitimate, and should be rejected. At the same time, Kuntze's var. *scandens* may not be used for this species too. Because if the varietal epithet *scandens* is raised to species rank, then another homonym will certainly be formed. Under these circumstances for the Italian species, a new name with full Latin description must be given as has just been done as above.

Sect. 6. **Viorna** (Rehb.) Prantl.

Subsect. 1. **Connatae** Koehne.

Ser. 1. **Connatae** Rehd.

24 俞氏铁线莲

Clematis yui W. T. Wang in Acta Phytotax. Sin. 29(5):465, fig. 3:3 ~ 5. 1991 et 36 (2):169. 1998. TYPE: China. Yunnan, Dulongjiang, 1938-09-09, T. T. Yu 21007 (holotype, PE!; isotype, GH!).

Myanmar. Adung Wang, Nam Tamai Valley, 1937-10-15, F. Kingdon Ward 13425 (BM). Distribution: China (NW Yunnan, SE Xizang), N Myanmar.

The famous explorer F. Kingdon Ward in 1937 in northern Myanmar for the first time collected the specimens of this species, and in the next year, 1938, the late Professor T. T. Yu discovered this species in north-western Yunnan. However, Ward's specimen had remained undetermined for more than sixty years until my visit to BM in 1999.

This species is a close ally of *C. kweichowensis* Pei, differing from the latter in its flowers being solitarily terminal to the short branchlets and in its lanceolate sepals about two times longer than the stamens. In *C. kweichowensis*, the flowers are arranged in 1-flowered axillary cymes, and the sepals are oblong in outline, and slightly longer than the stamens.

25 **Clematis nainitalensis** W. T. Wang, sp. nov. Fig. 4: 4 ~ 6

Affinis *C. urophyllae* Franch., quae foliolis crassioribus chartaceis apice longe acuminatis, sepalis late lanceolatis vel lanceolato-oblongis apice plus minusve attenuatis, filamentis dense villosis, antheris oblongis differt.

Liana lignosa. Rami tenues, 1 ~ 1.2 mm diam., vadosae 6 ~ 8-canaliculati, ad nodos dense ceterum sparse puberuli. Folia opposita, ternata; foliola herbacea, ovata, 3.3 ~ 5.5 cm longa, 1.8 ~ 3.5 cm lata, apice breviter acuminata vel acuta, basi rotundata vel rotundato-truncata, margine denticulata, supra tantum ad nervos sparse puberula, subtus sparse puberula, 5-nervia, nervis basalibus utrinque planis; petioli 2.8 ~ 4.6 cm longi, sparse puberuli. Cymae axillares, 1 ~ 2-florae; pedunculi 1.9 ~ 4.4 cm longi, sparse adpresseque puberuli; bractae subsessiles, rhombicae vel longe ellipticae, 3 ~ 11 mm longae, 1 ~ 4 mm latae, margine utrinsecus 1-denticulatae vel subintegrae, utrinque depresso puberulae; pedicelli 1.5 ~ 2.5 cm longi, depresso puberuli. Flos ca. 2.5 cm diam.; sepalis 4, erecta, obovato-oblonga, ca. 2.5 cm longa, 8 mm lata, apice obtusa, intus prope apicem tantum sparse puberula, extus dense flavido-puberula, margine velutina; stamina ca. 1.5 cm longa, filamentis anguste linearibus dense pubescentibus, antheris linearibus 3 ~ 4 mm longis glabris apice obtusis vel inconspicue minuteque apiculatis; carpella numerosa, staminibus subaequilonga, ovaris dense puberulis, stylis inferne dense villosis ceterum puberulis.

India. Naini Tal, climber, 1953-09-14, M. R. Ahuja s. n. (holotype, K).

This species is related to *C. urophylla*, differing from the latter in its thinner herbaceous shortly acuminate or acute leaflets, obovate-oblong obtuse sepals, pubescent filaments, and linear anthers. In *C. urophylla*, the leaflets are thicker coriaceous long acuminate at apex, the sepals are lanceolate or lanceolate-oblong, and at apex more or less attenuate, the filaments are densely villos, and the anthers are oblong in outline.

26 滇川铁线莲

Clematis kockiana Schneid. in Bot. Gaz. 63: 518. 1917. TYPE: China. Yunnan, Lijiang,

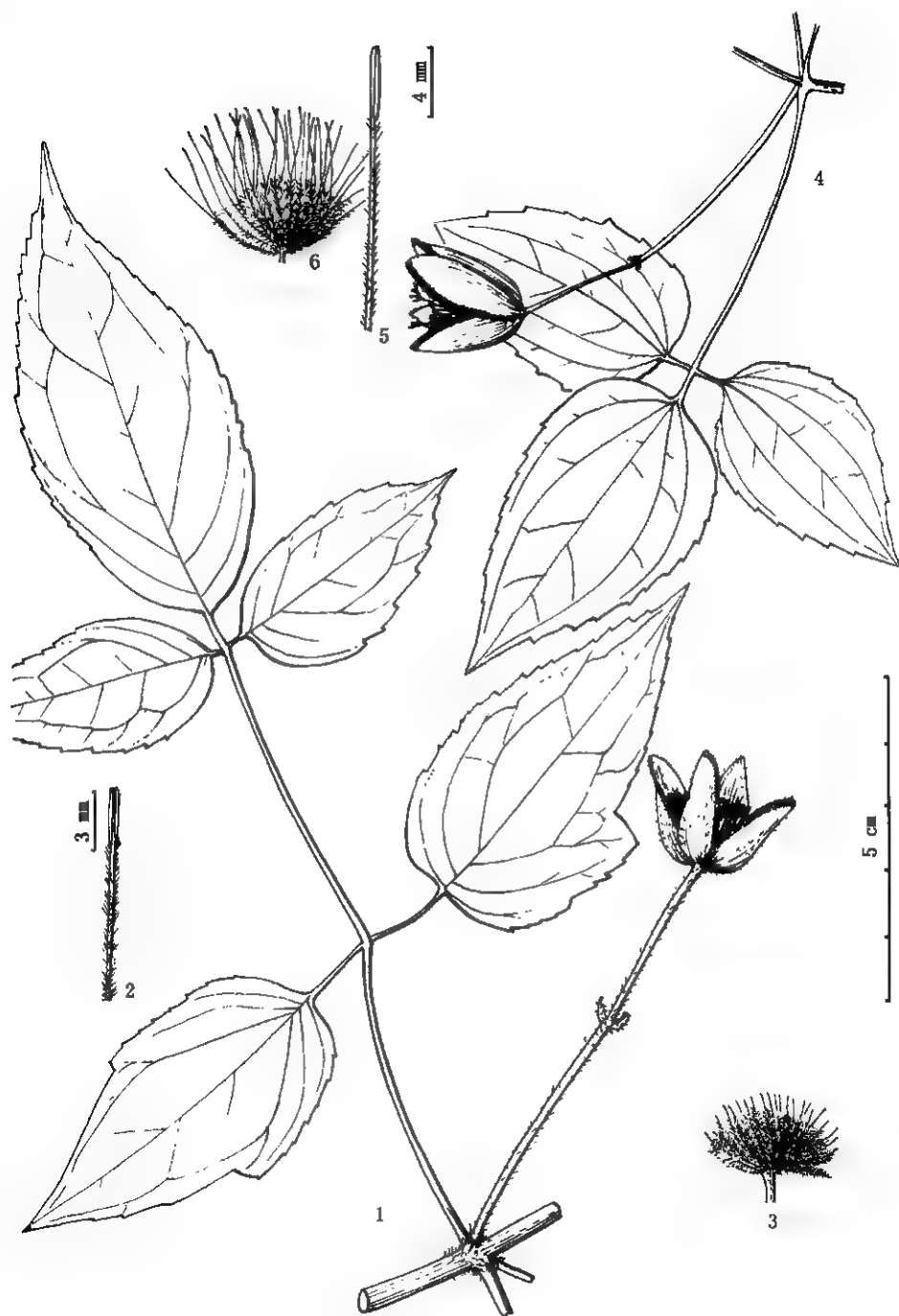


Fig. 4 1~3. *Clematis staintonii* 1. Flowering branch; 2. Stamen; 3. Gynoecium (from Stainton, Sykes & Williams 1659). 4~6. *C. nainitalensis* 4. Flowering branch; 5. Stamen; 6. Gynoecium (from Ahuja s. n.).

1914-09-06, Schneider 3898 (holotype, deposited in Hb. Schneid., not seen).

C. yunnanensis var. *chingtungensis* M. Y. Fang in Fl. Reip. Pop. Sin. 28: 100, 353. 1980, syn. nov. TYPE: China. Yunnan, Jingdong, 1956-10, B. Y. Chiu 53856 (holotype,

PE!)).

C. yunnanensis var. *brevipedunculata* W. T. Wang in Acta Bot. Yunnan. 4(2):135. 1982, syn. nov. TYPE: China. Sichuan, Ebian, Y. S. Liu 2319 (holotype, LB!).

C. yunnanensis auct. non Franch.: Hand.-Mazz. in Acta Hort. Gotob. 13:194. 1939; Iconogr. Corm. Sin. 1:737. 1972; M. Y. Fang in l.c. 100, pl. 25. 1980; W. T. Wang in Acta Bot. Yunnan. 8(3):266. 1986; L. Q. Li in Vasc. Pl. Hengduan Mount. 1:520. 1993; M. Johnson, Klematis 324. 1997, p. p.

China. Yunnan: Lijiang, Forrest 6498 (K, P), T. T. Yu 8152 (PE). **Xizang** (Tibet): Tsangpo Gorge, F. Kingdon Ward 6290 (BM, K). **Guizhou:** Tchen-lin-tcheau, Seguin & Bodinier 2024 (P). **Guangxi:** Lingluo, Z. Q. Zhang 11143; Longlin, Z. Q. Zhang 6290 (MO).

Distribution: China (E Xizang, SW Sichuan, Yunnan, W Guizhou, NW Guangxi).

In 1939, Handel-Mazzetti (l.c.) reduced *C. kockiana* Schneid. with ovate leaflets to the synonymy of *C. yunnanensis* Franch. with lanceolate-linear leaves. Since then his treatment was followed in relevant Chinese floral works. By examining the type specimens of *C. yunnanensis* Franch. in K and P in 1999, I realized that *C. kockiana* Schneid. is not conspecific with *C. yunnanensis* Franch., and should be reinstated.

27 云南铁线莲

Clematis yunnanensis Franch. in Bull. Soc. Bot. France 33: 361. 1886; Finet & Gagnep. l.c. 50: 544. 1903, p. p. excl. pl. Guizhou. — *C. acuminata* DC. ssp. *yunnanensis* (Franch.) Bruhl in Ann. Bot. Gard. Calc. 5:75. 1896. TYPE: China. Yunnan, Tapintze, alt. 2500 m, 1884-12-18, Delavay 727 (holotype, P!; isotypes, K! P!).

C. clarkeana Lévl. & Van. var. *stenophylla* Hand.-Mazz. in Acta Hort. Gotob. 13: 194. 1939; M. Y. Fang in Fl. Reip. Pop. Sin. 28:104. 1980, syn. nov. — *C. subfalcata* var. *stenophylla* (Hand.-Mazz.) W. T. Wang in Acta Phytotax. Sin. 36 (2): 169. 1998, syn. nov. TYPE: China. Sichuan, Yanyuan, Landaoshan, alt. 2900 m, 1914-10-12, Handel-Mazzetti 5580 (holotype, WHB, not seen; isotypes, E! GH!).

C. subfalcata Pei ex M. Y. Fang in Fl. Reip. Pop. Sin. 28:354, pl. 29. 1980, syn. nov. TYPE: China. Yunnan, Kaiyuan, Masangqing, 1934-02-09, Y. Tsiang 13117 (holotype, NAS!).

C. angustifoliola W. T. Wang in Guihaia 17 (1): 14. 1997, syn. nov. TYPE: China. Yunnan, Binchuan, Mt. Jizushan, 1940-12-21, T. N. Liou 17847 (holotype, IBSC!; isotype, PE!).

C. subfalcata var. *pubipes* W. T. Wang, l.c. 1998, syn. nov. TYPE: China. Yunnan, Wuding, alt. 2300 m, 1956-11-28, J. S. Xin 106 (holotype, PE!).

C. clarkeana auct. non Lévl. & Van.: M. Y. Fang, l.c., p. p. quoad pl. 27.

China. Yunnan: Tapintze, Delavay 2315 (K, P); pres Heechanmen, Delavay s. n. (P); Luquan (禄劝), P. I. Mao 1756 (PE); Shuangbai (双柏), Anonymous 427 (PE); Guangnan (广南), alt. 1550 m, C. W. Wang 87423, 87606 (PE); Malipo (麻栗坡), alt. 1300 ~ 2000 m, C. W. Wang 83894, K. M. Feng 12760 (PE). **Sichuan:** Muli (木里), alt. 2500 ~ 3100 m, T. T. Yu 14837, 14867 (PE).

Distribution: China (Yunnan, SW Sichuan).

This species is variable in peduncle length. Its peduncle may be present, 1 ~ 4 cm long (*e. g.* T. N. Liou 17847), nearly absent (Y. Tsiang 13117), or entirely reduced (Xin Jing-san 106). Its leaflets are lanceolate, narrowly lanceolate, or lanceolate-linear in outline.

28 *Clematis staintonii* W. T. Wang, sp. nov. Fig. 4: 1 ~ 3

Affinis *C. buchananiana* DC., quae foliolis majoribus 4 ~ 8 cm latis apice acutis vel breviter acuminatis margine dentatis subtus saepe dense pubescentibus vel velutinis, inflorescentiis saepe multifloris, pedunculis 5 ~ 15 cm longis, floribus majoribus, sepalis 2 ~ 3 cm longis differt.

Liana lignosa. Rami subteretes, ca. 5 mm diam., vadosae 8-canaliculati, glabrati; ramuli ca. 2 mm diam., vadosae 8-canaliculati, dense adpressequae puberuli. Folia opposita, pinnatim 5-foliolata; foliola papyracea, anguste ovata vel oblongo-elliptica, 4 ~ 7.5 cm longa, 1.6 ~ 3.2 cm lata, apice acuminata vel caudato-acuminata, basi rotundata vel subcordata, margine indivisa vel indistincte 2 ~ 3-lobulata, minute denticulata, supra sparse strigosa, subtus ad nervos leviter prominentes nervulosque puberula; petioli 3 ~ 5 cm longi, puberuli. Cymae axillares, 1 ~ 3-florae; pedunculi 2.6 ~ 4.4 cm longi, dense puberuli; bractae oppositae, triangulares, 1 ~ 2.5 mm longae, dense puberulae; pedicelli 1.5 ~ 1.8 cm longi, dense puberuli. Flos ca. 2 cm diam.; sepalia 4, viridula, erecta, ovato-oblonga, 15 ~ 19 mm longa, 6 ~ 8 mm lata, apice acuminata, utrinque dense adpressequae puberula, extus margine velutina; stamina 10 ~ 13 mm longa, filamentis anguste linearibus dense puberulis, antheris linearibus 2.5 ~ 3 mm longis dorso pilosis apice obtusis; carpella numerosa, ovaris dense puberulis, stylis ca. 10 mm longis dense villosis.

Nepal. Lete (south of Tukucha), Kali Gandaki, alt. 3000 m, climbing on shrubs, sepals and filaments pale green, anthers brown, 1954-07-09, Stainton, Sykes & Williams 1659 (holotype, P!).

This species is somewhat similar to *C. buchananiana*, differing from the latter in its leaflets being smaller, 1.6 ~ 3.2 cm broad, at apex acuminate or caudate-acuminate, at margin denticulate, abaxially only on veins puberulous, in the inflorescences being 1 ~ 3-flowered with peduncles 2.6 ~ 4.4 cm long, and in its flowers being smaller with sepals 1.5 ~ 1.9 cm long. In *C. buchananiana*, the leaflets are larger, 4 ~ 8 cm broad, at apex acute or shortly acuminate, at margin dentate, abaxially often densely pubescent or velutinous, the inflorescences are many-flowered, panicle-like, with peduncles 5 ~ 15 cm long, and the flowers are larger, with sepals 2 ~ 3 cm long.

29 毛花铁线莲

Clematis dasyandra Maxim. in Acta Hort. Petrop. 11:7. 1890; Finet & Gagnep. in Bull. Soc. Bot. France 50: 538. 1903; Hand.-Mazz. in Acta Hort. Gotob. 13:196. 1939; M. Y. Fang in Fl. Reip. Pop. Sin. 28:113, pl. 31. 1980; M. Johnson, *Clematis* 299. 1997. TYPE: China. Gansu, ad flumen Lumbo prope vicum Cerga, 1865, Potanin s. n. (holotype, LE, not seen; isotypes, K! P! PE!).

C. dasyandra var. *polyantha* Finet & Gagnep. l. c.; Hand.-Mazz. l. c.; Fl. Tsinling. 1(2):389. 1974; M. Y. Fang l. c.; M. Johnson, l. c., syn. nov. TYPE: China. Sichuan, Chengkou, Farges 36 (holotype, P!).

China. Hubei: Shennongjia (神农架), alt. 2000 m, G. X. Fu & Z. S. Zhang 1066 (PE). **Shaanxi:** Foping (佛坪), P. C. Kuo 1398 (PE).

Distribution: China (NE Sichuan, W Hubei, S Shaanxi, S Gansu).

In Potanin s. n. cited above, the cymes are 1-flowered, while in Farges 36, the cymes are 5 ~ 7-flowered. However, in Fu & Zhang 1066, the cymes are 2 ~ 7-flowered, and in P. C. Kuo 1398, the cymes 1 ~ 3-flowered, and these facts indicate that 5 ~ 7-flowered condition is within the variation of the species *C. dasyandra*. Thus, the variety *polyantha* should not be recognized.

Ser. 2. **Grandiflorae** W. T. Wang, ser. nov. TYPE: *C. grandiflora* DC.

Flos magnus, 3.5 ~ 5 cm diam. Sepala crasse papyracea, juvenitate extus conspicue 3 ~ 5-costata. Styli persistentes plumosi valde elongati, usque ad 10 ~ 12 cm longi.

Species 2, Africae incolae.

The subsect. *Connatae* in Africa is represented by two closely related species, *C. longicauda* A. Rich. and *C. grandiflora* DC. They are characterized by larger flowers, thickly papery sepals, which are conspicuously 3 ~ 5-ribbed when young, and the strongly elongate persistent plumose styles up to 10 ~ 12 cm long, and by these characters can be easily distinguished from other Asian species of that subsection, in which the flowers are much smaller, 1 ~ 3 cm in diameter, the sepals are thinner, papery or membranous in texture, not ribbed outside, and the persistent plumose styles are much shorter, 2 ~ 6 cm long.

30 *Clematis longicauda* Steud. ex A. Rich. Tent. Fl. Abyss. 1:2. 1847; Oliv. Fl. Trop. Afr. 1: 7. 1868; Kuntze in Verh. Bot. Ver. Brand. 26:131. 1885. TYPE: Ethiopia. in valle Dibill, 1840-05-01, Shimper 1284 (holotype, P!; isotypes, BM! K!).

C. grandiflora auct. non DC.: M. Johnson, *Clematis* 300. 1997, p. p. quoad syn. *C. longicauda* Steud. ex A. Rich.

Ethiopia. Bonga, Wilde 9384 (K, P); Gargeda, Mooney 6672 (K); Jimma, Wilde 10133 (P); Kaffa, Ash 3437, Friis 2075, Meyer 7927a, 8973 (K); Norri, Barry 3127 (S); Mt. Silke, Schimper 873 (K, P); Wolleya, Meyer 8167 (K).

Kenya: Nairobi, Gardner 15476 (K).

Distribution: Ethiopia, Kenya.

31 *Clematis grandiflora* DC. Syst. 1: 151. 1818; Prodr. 1:6. 1824; Hook. f. & Benth. Fl. Nigr. 203, 1849; Oliv. Fl. Trop. Afr. 1:7. 1868; Kuntze in Verh. Bot. Ver. Brand. 26: 131. 1885; Durand & Wild. in Bull. Soc. R. Bot. Belg. 37(1):109. 1898; Wild. Enum. Pl. Rec. Laurent. 1:85. 1905; Durand, Syll. Fl. Congo 14. 1909; Engler in Wiss. Ergeb. Deut. Zent.-Afr. Exped. 1907 ~ 1908, Band 2: 207. 1914; Wild. Pl. Bequaert. 2:30. 1923; Staner & Leon. in Bull. Soc. R. Bot. Belg. 82: 326. 1950; et in Robyns, Fl. Congo Belg. & Ruanda-Urundi 2:186 1951; Milne-Redhead & Turrill, Fl. Trop. E. Afr. 2. 1952; M. Johnson, *Clematis* 300. 1997, p. p. excl. syn. *C. longicauda* Steud. ex A. Char.; Aedo et al. Bas. Docum. Fl. Guinea Ecuat. 276. 1999. TYPE: Sierra Leon. Afzelius s. n. (holotype, UPS!; isotypes, BM! S!).

C. chlorantha Lindl. in Bot. Reg. 15: t. 1234. 1829. TYPE: no type specimen designated.

C. pseudograndiflora Kuntze in Verh. Bot. Ver. Brand. 26: 128. 1885. TYPE: Angola. Welwitsch 1218, 1219 (syntypes, B?, not seen; isosyntypes, BM! K! P! S!).

Sierra Leone. Bintumane Park, Jones 158 (K); Bohihun, Marmo 182 (K); Hill Station, Smythe 54 (K); Freetown, Morton 231 (P); Leicester, Morton 167 (K); Mts. Loma Morton 2758

(K); Ronietta, Thomas 5488 (K).

Guinea. Yamou, Chevalier 14642 (P); Chimbo, Chevalier 12437 (P); Dalaba, Chevalier 20329 (K, P); Labo, Lisowski 51541 (K); Mamou, Borne 55 (P); Ziana, Adam 7562 (P).

Liberia. Mt. Nimba, Bos 2412 (K); Massambolahun, Konnel 621 (P).

Cote D'Ivoire. Mt. Monkoue, Hepper 7769 (K); Sassandra, Breteler 6015 (P); Zaranou, Chevalier 17604 (P).

Nigeria. Mabilla Plateau, Chapman 4814 (K); Oban, Talbot 1411 (K).

Cameroon. Adamawa, Latilo 28900 (K, P); Bamuda, Maitland 1932 (K).

Gabon. Pakozamlei, Testu 1134; Pougue, Testu 8169 (P).

Zaire. Kivu, Ophesguiere 4931 (P).

Angola. Amboine, Gossweiler 4460 (K); Dalatando, Gossweiler 10311 (K); Granja S. Luiz, Halle 6467 (P).

Distribution: Sierra Leone, Guinea, Liberia, Cote D'Ivoire, Benin, Nigeria, Cameroon, Congo, Gabon, Zaire, Angola.

These two African species may be distinguished from each other by indumentum and leaflet shape. In *C. longicauda*, the branches, peduncles, and leaflet abaxial surfaces are covered with a dense, ferruginous or brownish velutinous indumentum, and the leaflets are usually broadly ovate in outline and 3 ~ 5-lobed. While in *C. grandiflora*, the branches are sparsely white-puberulous or subglabrous, the peduncles are more or less densely white- or yellowish-puberulous, and the leaflets are oblong-ovate or narrowly ovate in outline, usually undivided, and abaxially from only on veins sparsely white-puberulous to on whole surface densely white-puberulous, never velutinous. Judging from the small morphological differences and the allopatric geographical distribution of the two species, I think them to be a pair of sister groups. Besides, according to what mentioned above, I can't agree with Johnson (1997), who reduced *C. longicauda* Steud. ex A. Rich. to the synonymy of *C. grandiflora* DC. in his monograph.

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